DOCKET FILE COPY ORIGINAL

RECEIVED & INSPECTED
MAR 19 2002
FCC - MAILROOM

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

In the Matter of	)	
	)	
Improving Public Safety Communications in the 800 MHz Band	)	
	)	
Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels	)	WT Docket No. 02-55

NOTICE OF PROPOSED RULE MAKING

Adopted: March 14, 2002 **Released:** March 15, 2002

Comment Date: **30 days after publication in the Federal Register**
Reply Comment Date: **60 days after publication in the Federal Register**

By the Commission: Commissioners Abernathy, Copps and Martin issuing separate statements.

TABLE OF CONTENTS

Paragraph #

I. INTRODUCTION 1
II. EXECUTIVE SUMMARY 4
III. BACKGROUND 6
A. The 800 MHz Band Plan 6
B. Typical Public Safety System 11
C. Typical Systems Using Cellular Architecture 12
D. Interference to Public Safety Systems From CMRS Transmitters 14
IV. DISCUSSION 18
A. Band Restructuring 20
1. The *NAM Proposal* Channel Realignment Plan 21
2. The *Nextel Proposal* Channel Realignment Plan 23
3. Other Options 26
B. Additional Spectrum for Public Safety Agencies 29
C. Interoperability Channels 30
D. Incumbent Relocation 31
1. Relocation of Public Safety and Digital SMR Stations Within the 800 MHz Band 32

2. Relocation of Conventional SMR, Business and Industrial/Land Transportation Stations 34
3. Relocation Cost 38
4. Reimbursement of Relocation Costs 39
5. Cost Reimbursement Proposals - Discussion 42
6. Feasibility of Relocation Proposals 48
7. Replacement Spectrum 50
a. The 1910-1930 MHz Unlicensed PCS Band 51
b. The 2 GHz MSS Band 53
c. The 2390-2400 MHz Unlicensed PCS Band 58
d. Other Bands 59
E. Primary/Secondary Status 62
F. Proposed Implementation Schedule 63
G. Fee Waiver 67
H. Frequency Coordination 68
V. COMPLEMENTARY SOLUTIONS 73
VI. COMPETITIVE BIDDING CONSIDERATIONS 80
VII. PCIA 800 AND 900 MHZ POOL CONSOLIDATION PROPOSAL 83
VIII. COMMERCIAL USE OF 900 MHZ BAND LAND MOBILE FREQUENCIES 86
IX. CONCLUSION 87
X. PROCEDURAL MATTERS 90
A. Ex Parte Rules 90
B. Filing Procedures 91
C. Regulatory Flexibility Act 94
D. Ordering Clauses 96
E. Further Information 98
Separate Statement of Commissioner Kathleen Q. Abernathy
Separate Statement of Commissioner Michael J. Copps
Separate Statement of Commissioner Kevin J. Martin
APPENDIX ONE: Nextel Spectrum Holdings
APPENDIX TWO: Regulatory Flexibility Analysis

I. INTRODUCTION

1. The Commission has long recognized that the nation's public safety community requires effective radio communications systems free of harmful interference if public safety agencies are to adequately protect the safety of lives and property. One of the important bands that the Commission has made available for public safety communications is at 800 MHz, which was first designated for public safety use in 1980.[1] In the ensuing years, public safety agencies

[1] The initial allotment to public safety was 50 channels. *See* Amendment of Part 90 of The Commission's Rules to Designate Frequencies in the 806-821 and 851-866 MHz Bands for Slow-Growth Land Mobile Radio Systems of Utilities and Public Safety Agencies, PR Docket No. 79-191 *Report and Order*, 48 Rad. Reg. 2d (P&F) 837, FCC 80-663 (November 25, 1980). This was later increased to 70 channels. *See* Amendment of Part 90 of the Commission's Rules to Release Spectrum in the 806-21/851-866 MHz Bands and to Adopt Rules and Regulations Which Govern Their Use. Amendment of Part 90 of the Commission's Rules to Facilitate Authorization of Wide-Area Mobile Radio Communications Systems. An Inquiry Concerning the Multiple Licensing of 800 MHz Radio Systems ('community (continued....)

have been implementing new systems in this band; but, recently, these systems have been subjected to increasing incidents of harmful interference.

2. In this *Notice of Proposed Rule Making* (*NPRM*), we solicit proposals on how best to remedy interference to 800 MHz public safety systems consistent with minimum disruption to our existing licensing structure and assurance of sufficient spectrum for critical public safety communications. We also seek comment on a Petition for Rule Making filed by the Personal Communications Industry Association (PCIA)[2] seeking amendment of Section 90.621 of the Commission's Rules.[3] Finally, incorporating the record in WT Docket No. 99-87, which deals with matters related to the Balanced Budget Act of 1997,[4] we request comment on the terms and conditions of licenses in the 900 MHz land mobile band if it is used to relocate displaced licensees.

3. Our primary objective in this proceeding is to explore all available options and alternatives for improving the spectrum environment for public safety operations in the 800 MHz Band. We intend to move swiftly to achieve this objective.

II. EXECUTIVE SUMMARY

4. In this *NPRM*, we:

- Describe the current configuration of the 800 MHz band public safety and non-public safety systems.
- Discuss the causes of severe interference to public safety communications.
- Tentatively conclude that increasing levels of harmful interference to public safety communications on the 800 MHz band must be remedied.
- Discuss various means of reconfiguring the 800 MHz band in a manner that will effectively minimize interference to public safety radio systems from Commercial Mobile Radio Service (CMRS) stations using cellular architecture.

(Continued from previous page)
repeaters'). Amendment of Section 90.385(c) of the Commission's Rules to Allow Transmission of Non-Voice Signals at 800 MHz, PR Docket No. 79-191, PR Docket No. 79-334, PR Docket No. 79-107, PR Docket No. 81-703, *Second Report and Order,* 52 Rad. Reg. 2d (P&F) 11, FCC 82-338 (Aug. 16, 1982). Subsequently, the Commission added 225 25 kHz channels spaced 12.5 kHz apart and 5 25 kHz channels spaced 25 kHz apart at 866-869 MHz – the so-called "NPSPAC Channels." *See* ¶ 8 *infra.*

[2] Petition for Rulemaking of the Personal Communications Industry Association (filed Nov. 14, 2001) (PCIA Petition).

[3] 47 C.F.R. § 90.621.

[4] *See* Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended; Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies; Establishment of Public Service Radio Pool in the Private Mobile Frequencies Below 800 MHz; Petition for Rule Making of the American Mobile Telecommunications Association, *Report and Order and Further Notice of Proposed Rule Making,* WT Docket No. 99-87, RM-9332, RM-9405, RM-9705, 15 FCC Rcd 22709 (1999) (*BBA R&O and FNPRM*).

- Request information on the amount of spectrum sufficient to meet the needs of public safety.
- Discuss means of handling licensing and frequency coordination if the 800 MHz band is restructured and incumbent 800 MHz licensees are relocated to other suitable bands.
- With respect to any necessary incumbent relocation, discuss what replacement spectrum would be appropriate for displaced incumbents, who would be reimbursed for relocating and who would pay the costs associated with relocation.
- Consider complementary means of reducing interference to 800 MHz public safety communications in addition to reconfiguration of the 800 MHz frequency band, including receiver standards, stricter limits on out of band emissions, and more robust public safety signals.
- Describe and discuss PCIA's petition for rule making seeking to consolidate the Business and Industrial/Land Transportation pools.
- Request comment on the terms and conditions of licenses in the 900 MHz land mobile band if it is used to relocate displaced licensees.

5. If commenting parties believe 800 MHz band restructuring is necessary to mitigate interference to 800 MHz public safety systems, they should describe their restructuring proposals in sufficiently exact detail that we can ascertain whether they meet our goal of resolving interference with minimum disruption to existing services. If the 800 MHz band is restructured, there is the potential for gaining additional spectrum for use by public safety agencies. Before adopting any plan that would realize additional public safety spectrum, we require quantitative information on public safety agencies' needs for additional spectrum. We seek such information in this *NPRM*. In order that we may build a record sufficient to take timely and effective action to alleviate interference to public safety communications, we solicit comments from the public safety community, telecommunications carriers, Specialized Mobile Radio (SMR), Business and Industrial/Land Transportation licensees and their representatives, equipment manufacturers, government agencies and any other parties who can contribute to a solution to an interference problem potentially threatening to life and property. We likewise seek comment from all interested parties on PCIA's proposal to merge the 900 MHz Business and Industrial/Land Transportation pools into a single pool accessible to both services.

III. BACKGROUND

A. The 800 MHz Band Plan

6. In 1970, the Commission reallocated 115 megahertz of spectrum in the 806-947 MHz band for land mobile operations.[5] In 1974, the Commission adopted rules for this

[5] *See* Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz; And Amendment of Parts 2, 18, 21, 73, 74, 89, 91, and 93 of the Rules Relative to Operations in the Land (continued....)

spectrum, devoting 40 MHz for the development of high capacity common carrier mobile communication systems (*i.e.*, cellular systems) and 30 MHz for the development of private land mobile radio systems. The remaining 45 MHz of spectrum was held in reserve for future land mobile communication needs.[6]

7. Of the 30 megahertz allocated for private land mobile use (the equivalent of six hundred 25 kHz channel pairs), the Commission allotted 100 channel pairs (Channels 1-100) for conventional operation and 200 channel pairs (Channels 401-600) for trunked operation.[7] By 1978, the 100 channels designated for conventional operation were fully assigned in major metropolitan areas. To alleviate the resultant spectrum shortage, the Commission issued an *Order* releasing fifty of the remaining 300 channel pairs for conventional operations (Channels 101-150).[8] Shortly thereafter the Commission began receiving petitions to release the remaining 250 channel pairs; and, in 1982, adopted rules for these remaining channels. Instead of designating channels for a particular technology (*i.e.*, trunked and conventional) as it had previously, the Commission designated the remaining channel pairs by radio service category. It reserved seventy channel pairs for Public Safety Radio Services, fifty channel pairs for the Industrial/Land Transportation Radio Services, fifty channel pairs for the Business Radio Service and eighty channel pairs for the SMR Service.[9] Because the technology available at that time did not readily accommodate the use of contiguous spectrum at a single base station site, the Commission did not make contiguous spectrum available to each radio service. Instead, the channel pairs made available to each radio service were "interleaved" between channels allotted to the other radio services. To permit licensees access to spectrum when the channels assigned to their radio service had been exhausted, the Commission provided for inter-category sharing (*i.e.*, sharing between radio services).

8. In 1986, the Commission designated 6 MHz of spectrum (821-824/866-869 MHz) for public safety use.[10] Later that same year, the Commission established the National Public

(Continued from previous page)
Mobile Service Between 806 and 960 MHz, Docket No. 18262, *First Report and Order and Second Notice of Inquiry*, 19 Rad. Reg. 2d (P&F) 1663 (1970).

[6] *See* Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz; and Amendment of Parts 2, 18, 21, 73, 74, 89, 91, and 93 of the Rules Relative to Operations in the Land Mobile Service Between 806 and 960 MHz, Docket No. 18262, *Second Report and Order*, 46 FCC 2d 752 (1974), *reconsidered*, *Memorandum Opinion and Order*, 51 FCC 2d 945 (1975).

[7] *Id.*

[8] *See* Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz; and Amendment of Parts 2, 18, 21, 73, 74, 89, 91, and 93 of the Rules Relative to Operations in the Land Mobile Service Between 806 and 960 MHz, Docket No. 18262, *Order* (on further reconsideration), FCC 78-854 (1978); *aff'd sub nom. NARUC v. FCC*, 525 F.2d 630 (D.C. Cir. 1976), *cert. denied* 425 U.S. 992 (1976).

[9] *See* n.1 *supra*. Note that the specific channel pairs allocated to the various services may differ along the U.S. border areas.

[10] *See* Amendments of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems, Amendment of Parts 2, 15, and 90 of the Commission's Rules and Regulations to Allocate Frequencies in the 900 Reserve Band for Private Land Mobile Use. Amendments of Parts 2, 22 and 25 of the Commission's Rules to Allocate Spectrum for, and to Establish Other Rules and Policies Pertaining to the Use of Radio Frequencies in a Land Mobile Satellite Service for the Provision of (continued....)

Safety Planning Advisory Committee (NPSPAC) to advise the Commission on rules for this 6 MHz of spectrum. NPSPAC filed its *Initial Report* to the Commission in March of 1987. That same year, the Commission issued rules for the new public safety spectrum which became known as the "NPSPAC Band."[11] Five of the NPSPAC channels were devoted to "mutual aid" (interoperability) use.[12] In 1990, the Commission allotted channel pairs 1-150 to General Category use. These General Category channels could be used by eligibles in any of the four 800 MHz radio service pools (*i.e.*., Public Safety, Business, Industrial/Land Transportation and SMR) for either conventional or trunked operation.[13] At about the same time, SMR licensees became interested in accumulating large numbers of channels and using advanced technology to increase spectrum reuse employing cellular-type architecture to efficiently serve wide areas and large numbers of subscribers. To accommodate such interest, the Commission, in 1991, waived its rule requiring SMR licensees to complete system construction in one year. Thereby, it afforded Fleet Call – the predecessor of Nextel Communications, Inc. (Nextel) – sufficient time to develop and implement an SMR system offering wide-area digital voice and data service.[14] In 1995, the Commission established geographic area licensing and new service rules for the "upper 200" 800 MHz SMR channel pairs (Channels 401-600) where such wide-area digital voice and data services eventually proliferated.[15] Geographic licensing was also adopted for the General Category SMR channels.[16] The foregoing development of the 800 MHz band led to the following configuration of paired channels[17] existing today:

(Continued from previous page)
Various Common Carrier Services, GEN Docket Nos. 84-1231, 84-1233, and 84-1234, *Report and Order*, 2 FCC Rcd 1825, 1837 (1986).

[11] *See* Development and Implementation of a Public Safety National Plan and Amendment of Part 90 to Establish Service Rules and Technical Standards for Use of the 821-824/866-869 MHz Bands by the Public Safety Services, GEN Docket No. 87-112, *Report and Order*, 3 FCC Rcd 905 (1987).

[12] *See* Technical Compatibility Protocol Standards for Equipment Operating in the 800 MHz Public Safety Bands, GEN. Docket No. 88-441, *Memorandum Opinion and Order*, 66 Rad. Reg. 2d (P&F), 751, 752, (1989).

[13] *See* Trunking in the Private Land Mobile Radio Services for More Effective and Efficient Use of the Spectrum, PR Docket No. 87-213, *Report and Order*, 5 FCC Rcd 4016 (1990).

[14] *See, e.g.*, Fleet Call, Inc, *Memorandum Opinion and Order*, 6 FCC Rcd 1533, *recon. dismissed*, 6 FCC Rcd 6989 (1991).

[15] *See* Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, *First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rule Making*, 11 FCC Rcd 1463 (1995) (*800 MHz Report and Order*).

[16] Under these geographic "overlay" licensing schemes, incumbent site-by-site licensees are prevented from expanding their systems beyond their existing interference contours into the surrounding geographic area license. *Id.*

[17] The base station transmit frequencies are 45 MHz above the mobile and control station transmit frequencies.

Mobile and Control Station Transmit Frequencies

806 MHz 809.75 MHz 816 MHz 821 MHz 824 MHz

Public Safety (700 MHz band)	General Category (Channels 1-150)	250 Interleaved 25 kHz channels – Public Safety (70) [1.75 MHz] Industrial/Land Transportation (50) [1.25 MHz], Business (50) [1.25 MHz], SMR (80) [2 MHz]	Upper 200 SMR (Channels 401-600)	NPSPAC Public Safety channels (230 25 kHz channels)	Cellular (A&B)

851 MHz 854.75 MHz 861 MHz 866 MHz 869 MHz

Base Station Transmit Frequencies

9. Initially, public safety licensees operated in the above 800 MHz band segments with only occasional instances of harmful interference. However, although reasonable at the time, the original band plan did not anticipate the development and accelerated growth of 800 MHz systems using cellular-type architecture. Consequently, as 800 MHz public safety systems became more widespread and digital SMR and cellular systems engaged in more vigorous frequency reuse – with a greater number of digital SMR and cellular base station sites and a greater number of frequencies in use at those base station sites – public safety users began to encounter pockets of "dead zones" within their coverage areas as discussed in paragraph 13 *infra.*

B. Typical Public Safety System

10. As described in the *Best Practices Guide* – a document dealing with means of reducing interference to 800 MHz public safety systems[18] – public safety systems typically provide communications to and among vehicular or hand-held mobile units used by police and fire agencies, medical rescue teams and other governmental personnel throughout a large geographical area. Many of these communications are of an urgent nature, involving the safety of life or protection of property. Thus, a high degree of system reliability is required. Some public safety systems carry a very high amount of communications traffic at all hours of the day and night. Other systems are kept lightly loaded under normal circumstances, so that they are available to handle a sudden increase in communications traffic that can frequently occur due to an emergency situation.[19] The typical nature of public safety communications is that some transmissions are directed to a specific unit or group of units, while others request response from any unit that may be available for service or located in some particular area. Every unit being dispatched must be capable of communicating on the system from any location within the coverage area. The traditional way to design a mobile radio communications system that meets

[18] The document *Avoiding Interference Between Public Safety Wireless Communications Systems and Commercial Wireless Communications Systems at 800 MHz – A Best Practices Guide* (*Best Practices Guide*), December, 2000, was compiled by a working group of subject matter experts from the Association of Public Safety Officials, International (APCO), the Cellular Telecommunications and Internet Association (CTIA), Motorola, Inc., Nextel Communications, Inc. and the Public Safety Wireless Network (PSWN). It is available on the Internet at http://wireless.fcc.gov/publicsafety.

[19] *See generally* the *Best Practices Guide.*

these operational requirements is to establish a single base station with a high antenna in a favorable location within the desired coverage area. Although systems can be designed to meet these operational needs while utilizing a cellular-type of architecture (*i.e.* employing multiple low power base stations, automated handoff and frequency re-use), the infrastructure required would be more complex and costly in terms of construction, maintenance and leasing of towers. By using a single, high base station for a public safety system, the transmitted signal will be strongest near the base station and weaker in locations further away from it. Consequently, a public safety vehicular mobile or hand-held unit is expected to function properly with weak signals.

C. Typical Systems Using Cellular Architecture

11. CMRS systems such as Personal Communications Services (PCS), 800 MHz cellular and SMR systems are designed to serve the general public.[20] These services have been greatly increasing in popularity in recent years with both subscribership and usage expanding dramatically.[21] The resulting large volume of communications traffic is typically accommodated by re-using the available communications channels throughout a service area. This generally requires a "cellular-type" configuration consisting of a large number of base stations, each with a relatively low antenna that limits coverage to a small area around that base station. These cellular-type systems make intensive, and therefore efficient, use of their assigned frequencies. To increase capacity in response to subscriber demand, the system operators must often build additional base stations.

12. In the 1980's and early 1990's, most systems were built using analog technology. Over the past few years, however, cellular and SMR systems have converted to digital technologies. PCS systems have used digital technology from the outset. This trend from analog to digital technologies allows CMRS carriers to use their licensed spectrum even more efficiently, respond to increased user demand, and provide new services to customers. The digital emission types, however, generally have stronger sideband energy[22] than analog emission

---

[20] Herein, consistent with the *Best Practices Guide* we use the term "CMRS" – Commercial Mobile Radio Service" – to describe low-power, low-site, cellular architecture systems that are potential sources of interference to 800 MHz public safety systems. We note, however, that use of the term in this manner is somewhat imprecise because not all CMRS systems employ cellular architecture. For example, both conventional SMR and cellular architecture digital SMR stations are in the Commercial Mobile Radio Service. However, conventional SMR stations do not employ cellular architecture.

[21] In the twelve months ending December 2000, the mobile telephony sector increased subscribership from 86.0 million to an estimated 109.5 million subscribers. *See* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, *Sixth Report*, 16 FCC Rcd 13350, 13354 (2001) [mobile telephony includes the provision of mobile communications services by cellular, broadband PCS, and SMR operators]. For example, Nextel reported that its subscribership increased from 4.5 million at the end of 1999 to more than 6.6 million as of the end of 2000. *Id.* at Appendix C, Table 3 at C-4. A copy of the *Sixth Report* may be found on the Commission's Internet site at http://www.fcc.gov/wtb/reports.

[22] Modulating a transmitter with voice, data, etc. causes it to produce energy above and below the assigned carrier frequency, *i.e.* sidebands. These sidebands can extend into the frequencies used by public safety systems and are manifested as noise. See *Best Practices Guide* at 9.

types.[23] In sum, the *Best Practices Guide* concludes that factors such as collocated multi-channel CMRS base stations using low antenna heights and digital emissions create an environment rich in strong radio signals in the immediate vicinity of CMRS towers.

D. Interference to Public Safety Systems From CMRS Transmitters

13. Interference to 800 MHz public safety communications from cellularized CMRS systems in the same band is well documented.[24] Over the past few years there has been an increasing number of reports of interference to public safety communications from CMRS systems. CMRS interference to public safety systems has been reported in at least twenty-five cities in the U.S. including Seattle, Washington; Miami, Florida; Hialeah, Florida; Orange County, California; Phoenix, Arizona; Baltimore, Maryland; Salt Lake City, Utah, Denver, Colorado; El Paso, Texas; Kalamazoo, Michigan; Honolulu, Hawaii; Chester Springs, Pennsylvania; and, Santa Clara, California. Enforcement Bureau engineers who investigated complaints about interference to 800 MHz public safety systems determined that the reported interference occurred when the public safety mobile or portable radio was proximate to a CMRS transmitter. Recently, APCO's Project 39 provided detailed information on interference encountered in twenty-four states.[25] Specifically, public safety radio users have experienced loss of coverage in areas where satisfactory coverage previously existed or was predicted.[26] The interference may be audible in analog public safety systems, whereas digital or trunked systems may encounter signal quality problems on particular frequencies or system access difficulties. In public safety data systems, interference may cause premature loading and prolonged response times. Because the interference manifests itself in several different ways, public safety users may initially be unaware that the problem is caused by factors external to their radio systems.

14. The *Best Practices Guide* describes the causes of CMRS interference to public safety systems as falling into four major categories: intermodulation, receiver overload, transmitter sideband noise, and effects due to the transition from analog to digital modulation.[27] Several factors present in today's 800 MHz band communications environment increase the potential for one or more of these types of CMRS-public safety interference to occur. First, as noted at

---

[23] Each CMRS base station may transmit on numerous channels at the same time. Because the channels are re-used, there are signals present at any given location from more distant CMRS base stations within the same system. The local signal must be strong enough to overcome these interfering signals, therefore a CMRS system is generally designed to provide a strong signal throughout the service area of each low-power, low-site, relatively small coverage, base station "cell." Accordingly, CMRS subscriber units are designed to operate with a high received signal level. The *Best Practices Guide* characterize such systems as "interference limited." *See Best Practices Guide* at 7.

[24] *See generally Best Practices Guide.*

[25] *Project 39, Interference to Public Safety 800 MHz Radio Systems, Interim Report to the FCC,* Dec. 24, 2001. APCO undertook Project 39 as an extension of the research that resulted in the *Best Practices Guide.* Currently, its members are collecting detailed data on interference cases and identifying the interference mechanisms involved. Information on Project 39 can be found on the Internet at http://www.apcointl.org.

[26] *See* Motorola's Interference Technical Appendix to the *Best Practices Guide* at 1.

[27] For a detailed treatment of each type of interference, *see Best Practices Guide* at 8-10.

paragraph 10 *supra,* the typical infrastructures of public safety and CMRS systems result in public safety mobile or portable units attempting to receive weak signals from far away while they are located near cell sites where CMRS signals are strongest. Second, CMRS and public safety systems use frequencies in close proximity to one another in the 800 MHz band. Specifically, CMRS systems operate on frequencies that are on adjacent channels (in the case of SMR) or in an adjacent band (in the case of Cellular) to frequencies used by public safety systems. Third, public safety receivers are often not sufficiently selective to reject undesired signals that may be present under these conditions. These factors combine to create conditions in which interference occurs. According to the *Best Practices Guide,* the interference can be caused by a digital SMR operator, a cellular operator, or multiple CMRS transmitters co-located at a cell site. Significantly, the interference described above can occur even though all parties involved may be operating in compliance with the Commission's rules.

15. In this *NPRM,* we tentatively conclude that CMRS interference to public safety systems presents a sufficiently serious problem that a solution must be found. While we recognize that band reconfiguration may be one answer to the problem, it may not be a complete solution. Hence, we seek comment on all available interference reduction options that could be applied to the problem.

16. We also use this *NPRM* to address the petition filed by PCIA, proposing that we consolidate the Business and Industrial/Land Transportation pools in the 800 MHz and 900 MHz bands into a single pool. PCIA claims that service-specific channel designations are outmoded and that the proposed consolidation will facilitate licensees' use of more technologically innovative and efficient equipment.[28] In the alternative, PCIA asks us to lift the freeze on intercategory sharing.[29] We seek comment on PCIA's petition and the effect that granting the relief PCIA seeks would have on the various proposals herein to relocate facilities to bands other than 800 MHz.

IV. DISCUSSION

17. In the not too distant past, public safety incidents were usually localized and involved one or only a few public safety agencies, usually in the same locale.[30] Public safety concerns, however, have become increasingly complex – notably after the attacks of September 11, 2001 – and require a greater level of cooperation and communication among different public safety agencies and jurisdictions.[31] The ongoing implementation of an effective Homeland Security program is placing increased demands on public safety agencies' communications capability. To accommodate the demand for enhanced public safety communications capability, many jurisdictions are planning or already have implemented wide-area, often state-wide, 800

[28] *See PCIA Petition* at 4-9.

[29] *Id.* at 8.

[30] *See* Public Safety Wireless Network (*PSWN*), *Public Safety Radio Frequency Spectrum: Highlighting Current and Future Needs* at 2 (Jan., 2000) (*Future Needs*). *PSWN's Future Needs* Report is available at http://www.pswn.gov.

[31] *Id.* at 8.

MHz band public safety systems, most making use of the NPSPAC channels.[32] We therefore expect that public safety systems and CMRS systems will grow in concert, potentially exacerbating the current interference problem. Absent some action to remedy the problem of CMRS interference to public safety systems in terms of the root causes described in paragraph 13 *supra*, we are concerned that the interference will not only continue but may increase in scope and frequency. Public safety users such as police and fire departments cannot avoid using their radios in close proximity to CMRS antennas. In major cities, for example, CMRS antennas are located at the very places where public safety systems are needed to protect and serve the public. In urban areas where customer demand is highest for CMRS services, carriers will increasingly use spectrum more intensely. Further, CMRS carriers will continue enhancing their systems and constructing facilities in less densely populated areas. At the same time, public safety organizations will presumably continue to implement more and more 800 MHz band systems. There is no guard band, of the kind we established adjacent to the 700 MHz public safety allocation,[33] to protect 800 MHz band public safety licensees against interference. These factors – the continued growth of 800 MHz public safety systems and the proliferation of CMRS cell sites – when taken together, indicate that the interference problems described above will become more severe in the near future unless we take significant corrective action.

18. We seek comment on the accuracy of our description of the scope and technical causes of CMRS interference to public safety systems as described herein. Although our principal concern here focuses on interference to public safety systems, we note that the National Association of Manufacturers (NAM) and MRFAC, Inc., in a joint filing,[34] have stated that some manufacturers using 800 MHz frequencies have also encountered harmful interference from low power, low site, digital SMR stations.[35] We therefore also seek comment on the extent to which Business and Industrial/Land Transportation licensees are affected by such interference. In this connection, we ask parties with specific knowledge of the nature of the interference to provide detailed comments about its scope, frequency, root causes, potential solutions, and the costs associated with those solutions.

---

[32] *See, e.g.*, State of Ohio, *Memorandum Opinion and Order*, DA 01-3035 (WTB, PS&PWD 2002); State of Florida, *Memorandum Opinion and Order*, 16 FCC Rcd 2174 (WTB 2001); Commonwealth of Pennsylvania and GPU Energy, *Order*, 14 FCC Rcd 14029 (WTB, PS&PWD 1999); New Jersey Transit Authority, *Order*, 14 FCC Rcd 4334 (WTB 1999); State of South Carolina and Scana Communications, Inc., *Order*, 13 FCC Rcd 8787 (WTB 1997); State of Florida, *Order*, 12 FCC Rcd 11567 (WTB 1997); Seminole County, Florida, *Order*, 11 FCC Rcd 4105 (WTB 1996).

[33] Development of Operational, Technical, and Spectrum Requirements for meeting Federal, State and Local Public Safety Communication Requirements Through the Year 2010, WT Docket No. 96-86, *Third Memorandum Opinion and Order and Third Report and Order*, 15 FCC Rcd 19844, Appendix G (2000).

[34] *See* letter of December 21, 2001, to Michael Powell, Chairman, Federal Communications Commission, from Jerry Jasinowski, President, National Association of Manufacturers and Clyde Morrow, Sr., President, MRFAC, Inc. (*NAM Proposal*).

[35] *See NAM Proposal* at 1.

A. Band Restructuring

19. We tentatively conclude that there is a serious interference problem with public safety in the 800 MHz band that deserves resolution. One option for resolution of this problem is a restructuring of the 800 MHz land mobile band to stem the increasing incidents of interference to public safety systems. We believe that one essential aspect of this restructuring is extracting public safety systems from the interleaved spectrum at 809.75-816 MHz and 854.75-861 MHz where public safety systems frequently operate on channels immediately adjacent to potentially interfering – or actually interfering – digital SMR, conventional SMR,[36] Business or Industrial/Land Transportation stations. Although there are numerous ways in which the 800 MHz land mobile band could be reconfigured to reduce CMRS interference to public safety systems, no one restructuring candidate appears fully able to meet our goal of reducing or eliminating interference without burdening existing licensees. Indeed, it may be necessary to strike a compromise between the two components of our goal, recognizing that a balancing of interests may be required in whatever rules we adopt to effect band restructuring. Accordingly, commenting parties advancing particular band plans should fully address both the benefits and burdens of their proposals. In that connection, we note that we already have before us, two band restructuring proposals submitted in advance of issuance of this *NPRM,* one from NAM,[37] the other from Nextel.[38] We seek comment on those proposals and the other options set forth below. We affirmatively encourage alternative proposals as well.

1. The *NAM Proposal* Channel Realignment Plan

20. The *NAM Proposal* would create three separate but adjacent contiguous channel blocks reserved for: (a) public safety; (b) conventional SMR, Business and Industrial/Land Transportation systems; and (c) cellular architecture systems,[39] as shown below:

---

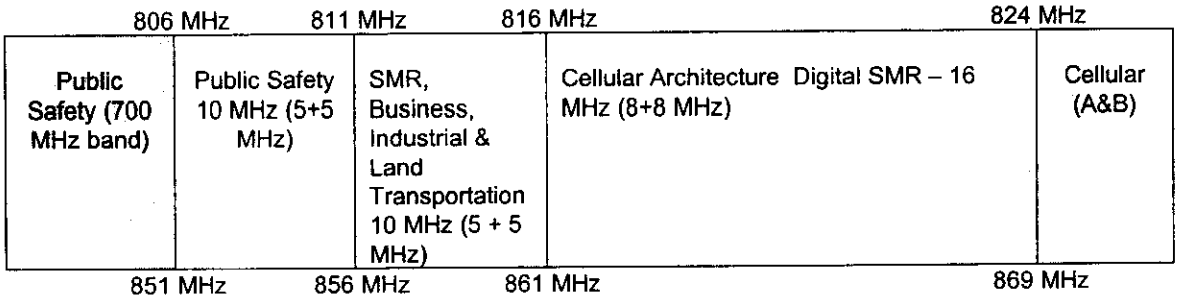
[36] "Conventional SMR" is used herein to identify the SMR stations that do not employ digital cellular architecture configurations.

[37] *See NAM Proposal supra* n.34.

[38] Promoting Public Safety Communications – Realigning the 800 MHz Land Mobile Radio Band to Rectify Commercial Mobile Radio - Public Safety Interference and Allocate Additional Spectrum to Meet Critical Public Safety Needs (*Nextel Proposal*), Nov. 21, 2001. The *Nextel Proposal* may be accessed on the Internet at http://wireless.fcc.gov/publicsafety. Although not so captioned, the *Nextel Proposal* is similar to a petition for rule making because it requests the Commission to initiate a rule making proceeding and proposes specific changes to the Commission's Rules. *See Nextel Proposal* at 5. However, to forestall any procedural ambiguity, we are initiating the instant rulemaking on our own motion, relative to the matters we have independently verified as well as those matters raised in the *Nextel Proposal*, in certain filings addressing the *Nextel Proposal,* and in response to the rule making petition filed by PCIA relative to consolidation of services in the 800 and 900 MHz bands. *See* 47 C.F.R. § 1.411.

[39] *See NAM Proposal* at 2-3.

Mobile and control station Transmit Frequencies



Base Station Transmit Frequencies

21. Under the *NAM Proposal*, the NPSPAC channels and the interleaved public safety channels would be deleted and incorporated into a contiguous 10 MHz block of public safety spectrum at 806-811 MHz/851-856 MHz. SMR, Business and Industrial/Land Transportation channels would be consolidated into a 10 MHz block of spectrum at 811-816 MHz/ 856-861 MHz. Digital SMR stations with cellular architecture would occupy the spectrum currently occupied by the NPSPAC channels (821-824 MHz/866-869 MHz) and the upper 200 SMR channels (816-821 MHz/861-866 MHz). NAM notes that, under its proposal, no licensee would have to relocate outside the 800 MHz band, and claims that the requisite frequency changes could be accomplished by retuning equipment rather than replacing it, thus making relocation less disruptive.[40] Further, NAM asserts that business licensees are more "compatible" with adjacent public safety licensees than are cellular architecture SMR systems and that its band plan therefore would reduce potential interference to public safety from upper adjacent channels.[41] The *NAM Proposal* would also provide public safety with a small increment (0.5 MHz) of additional spectrum.[42] NAM also observes that its proposal would provide public safety licensees with a block of spectrum that is adjacent to the current public safety 700 MHz allocation, "an approach that facilitates the application of new technologies requiring varying bandwidths."[43]

[40] *See id.* at 3-4. We note that in the *NAM Proposal*, NAM characterizes a portion of its plan as follows: "Cellular-type SMR systems would re-tune to the band 821-824 / 866-869 MHz just as under the Nextel proposal." *Id.* at 3. We believe this was an inadvertent error on the part of NAM and that it properly should have said that, under the NAM proposal cellular-type SMR systems would retune to 816-824 / 861-869 MHz. Our belief is grounded on the fact that these are the spectrum segments designated for cellular-type Digital SMR systems in the *Nextel Proposal* (which the NAM proposal purports to replicate in this regard); and that to conclude otherwise would leave cellular-type SMR systems with only 8 MHz of spectrum (4 + 4 MHz) which would be inadequate to accommodate existing cellular-type SMR systems.

[41] *Id.* Note, however, that NAM claims that its constituents are currently receiving interference from cellular architecture SMR systems, such as Nextel's. *See id.* at 1.

[42] *See NAM Proposal* at 4.

[43] *Id.* at 3.

2. The *Nextel Proposal* Channel Realignment Plan

22. The *Nextel Proposal* would create two separate but adjacent contiguous channel blocks in the 800 MHz band as follows:

Mobile and Control Station Transmit Frequencies

806 MHz 816 MHz 824 MHz

Public Safety (700 MHz band)	Public Safety – 20 MHz [10 MHz mobile & control; 10 MHz base station transmit]	Guard Band - 2 MHz (base station transmit frequen-cies only)	Digital SMR – 16 MHz (8+8 MHz)	Cellular (A&B)

851 MHz 859 MHz 861 MHz 869 MHz

Base Station Transmit Frequencies

Under the *Nextel Proposal,* one 20 MHz block[44] would be occupied by public safety systems ("Public Safety Block") and one 16 MHz block[45] would be occupied by low-power, low-site CMRS digital wireless networks ("Digital SMR Block").[46] The 20 MHz Public Safety Block (806-816 MHz/851-861 MHz) would encompass the 7.5 MHz of spectrum currently assigned to the 150 lower General Category channels and the 12.5 MHz of spectrum constituting the current 250 interleaved channels.[47] Nextel posits that an upper guard band might be necessary in the proposed public safety allocation. It suggests a 2 MHz guard band from 859-861 MHz and asks the Commission to decide whether 2 MHz is adequate.[48] The 16 MHz Digital SMR Block (816-824 MHz/861-869 MHz) would encompass the 10 MHz of spectrum currently assigned to the upper 200 SMR channels (816-821 MHz/861-866 MHz) and the 6 MHz of spectrum making up the current NPSPAC channels (821-824 MHz/866-869 MHz).[49] After realignment, the 800 MHz land mobile band would continue to occupy 36 MHz. Channels 1-400 (20 MHz) would comprise the Public Safety Block and Channels 401-720 (16 MHz) would comprise the Digital SMR Block.[50] Note, however, that including the Nextel 2 MHz guard band would reduce the public safety block to 18 MHz.[51]

---

[44] 10 MHz of the block would be for base station use; the other 10 MHz for mobile station use.

[45] 8 MHz of the block would be for base station use; the other 8 MHz for mobile station use.

[46] *See Nextel Proposal* at 7.

[47] *See id.* Exhibits A and B.

[48] *See id.* at 33-34.

[49] *Id.*

[50] *See id.* at 7.

[51] Nextel asserts that the guard band would be necessary only on the base transmit frequencies (the frequencies received by mobile and portable receivers). *See Nextel Proposal* Exhibit B at 2. The Nextel assertion assumes that Digital SMR transmitters would not create interference to base station (continued....)

23. Nextel asserts that its band plan is the solution to the interference problems that arise when "low-power, low-site interference-limited" CMRS facilities employing frequency reuse are neither in the same band with, nor in bands adjacent to, "high-power, high-site" noise-limited public safety systems intended to provide relatively wide area coverage.[52] Nextel claims that if its band plan and certain other complementary measures[53] are implemented, CMRS interference to public safety systems will be "virtually eliminated."[54]

24. The *Nextel Proposal* would also require 800 MHz Business, SMR and Industrial/Land Transportation incumbents to relocate to other bands and would approximately double the spectrum assigned to public safety in the 800 MHz band. It is difficult to determine whether this required relocation is a function of Nextel's asserted mitigation of interference in the 800 MHz band, whether it is a function of providing additional spectrum for public safety or, perhaps, a combination of the two. However, Nextel's specific proposal does raise two essential questions: (1) whether the mitigation of interference could be achieved without relocating incumbents to other bands; and (2) if so, whether the relocation of incumbents to other bands is still warranted in order to afford public safety with spectrum sufficient to its needs.[55]

3. Other Options

25. The proposals advanced by NAM and Nextel do not exhaust the possibilities for 800 MHz band restructuring. By way of example, it would appear that the interference problem attributed to interleaving[56] could be eliminated simply by removing public safety systems from the interleaved spectrum. This could be achieved, as shown in the figure below, by relocating the currently interleaved seventy Public Safety channels to a contiguous block of spectrum from 809.750 to 811.500 MHz. The fifty Business and fifty Industrial/Land Transportation channels would then occupy consecutive 1.25 MHz blocks, from 811.500 to 814 MHz, and the eighty SMR channels would be located in the 814-816 MHz block. Thereby, the Business and

(Continued from previous page)
receivers – an assertion that it has not substantiated. Moreover, Nextel observes that a guard band of more than 2 MHz may be necessary, *see Nextel Proposal* at 33-34, thereby reducing the proposed public safety block from 18 MHz to some lower value. Regardless of the width of the guard band, the corresponding channels on the mobile and control station transmit frequencies could not be used on a paired basis.

[52] *See Nextel Proposal* at 28-31.

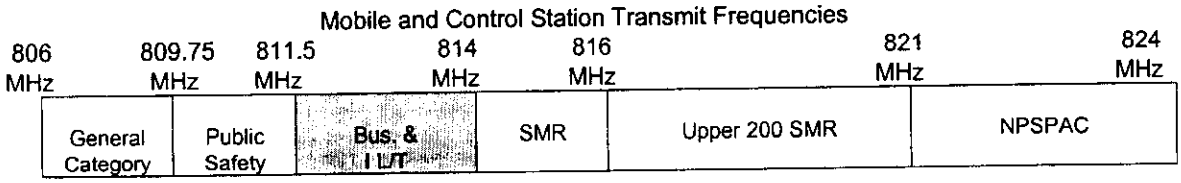
[53] *See para.* 72 *supra.*

[54] *See Nextel Proposal* at 9.

[55] *See* Letter of November 21, 2001, from Glen Nash, President, Association of Public Safety Officials – International, Inc.; Gary Briese, Executive Director, International Association of Fire Chiefs; William Berger, President, International Association of Chiefs of Police; Jerry Keller, Chairman, Major Cities Chiefs Association; John Bittick, President, National Sheriffs' Association; Patrick McGowan, Major County Sheriffs' Association; and Marilyn Ward, Chair, National Public Safety Telecommunications Council. Therein, the authors note that the *Nextel Proposal* would yield additional spectrum for public safety and endorse the proposal to the extent that it could be implemented at no cost to public safety entities.

[56] *See* ¶ 19 *supra.*

Industrial Land/Transportation channels would provide a buffer between public safety and SMR systems.



(Base Station Transmit Freq. = Mobile & Control Freq. + 45 MHz)

We encourage commenting parties to submit any original band restructuring plan – or variations on the foregoing plans – and to discuss how their plans address the following issues: (a) interference elimination; (b) minimum disruption to existing services; and (c) provision of sufficient spectrum for public safety.

26. Commenting parties should also address whether a form of frequency coordination would eliminate intermodulation interference. For example, should CMRS licensees be prohibited from using frequencies at the same site that would generate intermodulation products falling on a frequency used by public safety? In that connection, we note that Nextel asserts that intermodulation "is the primary interference mechanism"[57] and that it is due exclusively to public safety receiver characteristics.[58] It is not intuitively obvious that either Nextel's or NAM's proposed reconfiguration of the 800 MHz band would significantly reduce intermodulation interference. Thus, we seek comment on any nexus there may be between the band reconfiguration proposals and the reduction of intermodulation interference. We also ask whether the intermodulation interference reported to date is exclusively a function of receiver characteristics, as Nextel contends, or whether it is also attributable to other causes. If commenting parties conclude that intermodulation interference is the primary mechanism at work in CMRS interference to public safety systems and is not - or is not exclusively - a function of public safety receiver characteristics, then they should comment on any solution that would place cellular architecture systems so far removed from the 800 MHz band that interfering intermodulation products would be unlikely to fall on public safety frequencies. For example, could a band above 1 GHz provide a home for relocated 800 MHz cellular architecture SMR systems?[59] To the extent that the Commission determines that relocation of some incumbents is warranted, we seek comment on the impact of those relocations on intermodulation interference to public safety facilities.

27. We also seek comment on whether, if Public Safety, Business, Industrial/Land Transportation or SMR stations are relocated, that should be taken as an opportunity to realize more efficient use of the spectrum. In that connection, we note that the Commission has "refarmed" the frequencies below 512 MHz (the refarming bands) so that licensees will migrate

[57] *Nextel Proposal* at 21.

[58] *See id.*

[59] *See, e.g.*, para. 53 infra discussing use of "abandoned" 2 GHz Mobile Satellite Service (MSS) spectrum for other services.

from 25 kHz to 12.5 kHz and, eventually, 6.25 kHz bandwidths.[60] In the refarming bands, the Commission encouraged the transition to narrowband operation by changing its equipment acceptance standards[61] so that wideband equipment would no longer be certified. In setting rules for the 700 MHz band public safety spectrum, the Commission took a more direct approach by mandating the use of 12.5 kHz bandwidth on the 700 MHz Interoperability channels. Moreover, the Commission stated its intention to eventually migrate the 700 MHz General Use channels in that band to 6.25 kHz technology.[62] If stations relocating from the 800 MHz land mobile band would have to acquire new equipment to operate on replacement spectrum, the incremental cost of acquiring narrowband rather than wideband equipment would appear to be minimal and the gain in spectrum efficiency, substantial.

B. Additional Spectrum for Public Safety Agencies

28. We note that, of the two proposals before us, the *Nextel Proposal* would provide 10 MHz of additional 800 MHz spectrum for public safety and the *NAM Proposal* would provide an additional 0.5 MHz of public safety spectrum.[63] We anticipate that other filings may propose greater or lesser amounts of additional public safety spectrum or no additional public safety spectrum. Although the amount of spectrum allotted to public safety will be a factor in the calculus we use to evaluate various proposals, the weighting to be given that factor depends on our having accurate information on the amount of spectrum that is sufficient to meet the needs of public safety. We recognize the work of the Public Safety Wireless Advisory Committee (PSWAC) in its groundbreaking assessment of public safety spectrum needs.[64] But, we are mindful that PSWAC submitted its report in 1996 and that, especially after the attacks of September 11, 2001, the communications needs of public safety may have changed in both degree and kind. Moreover, since 1996, there have been two major Commission initiatives to meet the needs of public safety. In 1998, the Commission made the largest public safety spectrum allocation in history – 24 MHz in the 764-776 MHz/794-806 MHz band.[65] Very recently, we designated a 50 MHz segment in the 4.9 GHz band for use in support of public safety.[66] Also, since 1996, there have been technological and regulatory developments that have

[60] *See, e.g., Refarming Second Report and Order*, 12 FCC Rcd at 14307.

[61] *See* 47 C.F.R. § 90.203.

[62] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communication Requirements Through the Year 2010, WT Docket No. 96-86, *Fourth Report and Order and Fifth Notice of Proposed Rule Making*, 16 FCC Rcd 2020, 2020 (2001).

[63] *See NAM Proposal* at 3-4.

[64] *Final Report of the Public Safety Wireless Advisory Committee*, September 11, 1996.

[65] *See* The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, WT Docket No. 96-86, *First Report and Order and Third Notice of Proposed Rulemaking*, 14 FCC Rcd 152 (1998) (*Public Safety First R&O*). This spectrum allocation doubled the amount of spectrum available to public safety users.

[66] *See* The 4.9 GHz Band Transferred from Government Use, *Second Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 00-32, FCC 02-47 (rel. Feb. 27, 2002).

improved spectrum use such as spectrum refarming[67] and adoption of narrowband digital technology[68] which represent the functional equivalent of providing additional spectrum. Moreover, there has been unprecedented growth in the number of commercial mobile radio services, some of which may be suitable for meeting the more routine public safety communications needs.[69] Commenting parties addressing the question of the sufficiency *vel non* of public safety spectrum should thus take these post-1996 developments into account in their comments, including the issue of whether there are spectrum efficiencies to be gained by, *e.g.* refarming the 800 MHz band using the digital technology that is permitting the employment of 12.5 kHz, and ultimately 6.25 kHz, bandwidth in the 700 MHz public safety band.[70] In sum, we seek comment more generally on whether the existing spectrum that is available to, or designated for, public safety use satisfies the current and future needs of the public safety community. We also seek comment on whether the 800 MHz band database is sufficiently accurate to enable us to make a spectrum-efficient realignment of the 800 MHz band; and, if not, whether measures such as a spectrum audit, currently underway on the land mobile frequencies below 512 MHz,[71] would be of value here.

C. Interoperability Channels

29. As part of our renewed commitment to homeland security, the Commission has been re-examining the spectrum needs of the public safety community. It is clear that public safety operations would benefit from additional channels devoted to interoperability. In an effort to meet this need, the Commission set aside 24 MHz of spectrum (64 channels) in the 700 MHz band.[72] From a practical standpoint, that spectrum is not yet available for public safety use because of the presence of incumbent television stations on the spectrum and because of a lack of equipment for use on these frequencies. Restructuring of the 800 MHz band, particularly a restructuring that would yield additional spectrum for public safety, would make it possible to designate particular channels as interoperability channels. The NPSPAC channels, which would

---

[67] *See, e.g.*, Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235, *Second Report and Order*, 12 FCC Rcd 14307 (1997) (Refarming Second Report and Order).

[68] *See, e.g.*, The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communication Requirements Through the Year 2010, WT Docket No. 96-86, *Fourth Report and Order and Fifth Notice of Proposed Rule Making*, 16 FCC Rcd 2020, 2043-44 ¶ 69 (2001) (*Public Safety 4th R&O and 5th NPRM*).

[69] We note that CMRS carriers are permitted to offer public safety entities priority access service on a voluntary basis. *See* Development Of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010; Establishment of Rules and Requirements For Priority Access Service, WT Docket No. 96-86, *Second Report and Order*, 15 FCC Rcd 16720, 16728 ¶ 17 (2000).

[70] *See Public Safety First R&O*, 14 FCC Rcd at 172-73 ¶¶ 37-38.

[71] *See* Wireless Telecommunications Bureau Announces Commencement of an Audit of the Construction and Operational Status of Private Land Mobile Radio Stations, *Public Notice*, 16 FCC Rcd 14264 (WTB 2001).

[72] *See* 47 C.F.R. §§ 90.547, 90.531.

be displaced if either the NAM or Nextel 800 MHz band plans were implemented, currently have five channels reserved for interoperability purposes.[73] In 2000, the Commission dedicated five channels in the 150-174 MHz band and four channel pairs in the 450-512 MHz band for interoperability purposes.[74] We seek comment on whether there is an additional need for public safety interoperability spectrum at 800 MHz. If so, commenting parties should address the number of 800 MHz public safety channels that should be designated as interoperability channels. Comment is also sought on whether transmissions on interoperability channels should conform to a common modulation protocol, *e.g.*, conventional analog 25 kHz or 12.5 kHz FM or the ANSI/EIA/TIA 102, "Project 25" suite of standards adopted for use in the 700 MHz public safety band.[75] We also invite commenting parties to address the issue of whether we should require all new 800 MHz public safety portable and mobile radios to have the capability of communicating on the 800 MHz interoperability channels.

D. Incumbent Relocation

30. Any band restructuring proposal that would change the amount of 800 MHz spectrum available to any of the current services there – Public Safety, Business, Industrial/Land Transportation or SMR – would require that displaced licensees be relocated to other bands. Relocation is one of the tools that the Commission has available to it in exercising its spectrum management responsibilities.[76] It often is used to solve problems of current and future congested bands[77] and to ameliorate technical difficulties that impair other communications services.[78] On

---

[73] *See* Development and Implementation of a Public Safety National Plan and Amendment of Part 90 to Establish Service Rules and Technical Standards for Use of the 821-824/866-869 MHz Bands by the Public Safety Services, GEN Docket No. 87-112, *Report and Order*, 3 FCC Rcd 905, 908 ¶¶ 27-30 (1987)

[74] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, Establishment of Rules and Requirements For Priority Access Service, WT Docket No. 96-86, *Third Memorandum Opinion and Order and Third Report and Order*, 15 FCC Rcd 19844, 18948-19849 ¶ 9 (2000). The Commission also designated two channel pairs in the VHF 156-162 MHz band for interoperability communication in thirty-three Economic Areas (EAs), where these channels are allocated for public safety entities.

[75] *See Public Safety 4th R&O and 5th NPRM*, 16 FCC Rcd at 2024 ¶70.

[76] *See* Amendment of the Commission's Rules Relative to the Licensing of Microwave Radio Stations Used to Relay Television Signals to Community Antenna Television Systems, *First Report and Order and Further Notice of Proposed Rulemaking*, Docket No. 15586, 1 FCC 2d 897, 908 ¶ 32 (1965) (*Microwave/CATV Order*).

[77] *See* Utilization and Assignment of Aeronautical Advisory Frequencies, *Report and Order*, Docket No. 20123, 64 FCC 2d 573, 576 ¶¶ 1, 7 (1977).

[78] *See* Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service from the 18 GHz Band to the 24 GHz Band and to Allocate the 24 GHz Band for Fixed Service, *Memorandum Opinion and Order*, ET Docket No. 97-99, 13 FCC Rcd 15147, 15151-15153 ¶¶ 9-13 (1998) (*DEMS MO&O*), affirming the *Order*, 12 FCC Rcd 3471 (1997), as corrected by *Erratum*, 12 FCC Rcd 4990 (1997). In a *de novo* review, the Commission upheld relocation of the Digital Electronic Message Service (DEMS) to the 24 GHz band in order to protect military satellite systems operations in the 18 GHz band.

numerous occasions, the Commission has required incumbents to relocate to other spectrum if the public interest was so served.[79] This is true regarding public safety licensees as well as non-public safety entities.[80]

1. Relocation of Public Safety and Digital SMR Stations Within the 800 MHz Band

31. Any party advancing a proposal for reconfiguration of the 800 MHz land mobile band should address how the plan would be implemented. Under the plan outlined in the *Nextel Proposal*, public safety systems would relocate to "comparable facilities"[81] in the proposed Public Safety Block and digital SMR systems would migrate to the Digital SMR Block. In order to clear spectrum for the realignment plan, Nextel states that it would relocate – at its own cost – incumbent stations licensed to Nextel which are currently occupying the proposed Public Safety Block (Channels 1-400).[82] In addition, Nextel would commit to pay up to $500 million toward the cost of relocating 800 MHz band public safety systems to the proposed Public Safety Block (Channels 1-400).[83]

32. Commenting parties should also address how any relocation plan would be implemented consistent with international agreements, in those areas of the United States that are adjacent to the Canadian and Mexican borders. We note that, under our current rules, the specific frequencies allotted to the different 800 MHz band pools in the border areas are not the same as in the rest of the country.[84] Because band partitioning was the spectrum apportioning method used in the pertinent bilateral agreements covering these 800 MHz band segments, some

---

[79] *See also 800 MHz Report and Order,* 11 FCC Rcd at 1503-1510.

[80] For example, in reallocating spectrum from fixed microwave use to use by Emerging Technology (ET) services, the Commission required all occupants, including public safety entities, to relocate because: (a) additional and appropriate spectrum was needed to sustain the growth of services made possible through new technologies; and (b) if public safety entities remained, the deployment of new technologies would likely be impossible. *See* Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, *First Report and Order and Third Notice of Proposed Rulemaking,* ET Docket No. 92-9, 7 FCC Rcd 6886, 6888 ¶ 14 (1992) (*ET First Report and Order*), *on recon. Memorandum Opinion and Order,* 9 FCC Rcd 1943, 1947 ¶ 34 (1994), *affd. sub nom. Association of Public Safety Communications Officials-International, Inc. v. FCC*, 76 F. 3d 395, 399 (D.C. Cir. 1996).

[81] *See Nextel Proposal* at 39. In order to facilitate a previous mandatory relocation in the 800 MHz band, the Commission defined the term "comparable facilities" to mean: (a) a comparable system; (b) of equivalent channel capacity; (c) providing the same quality of service; (d) with comparable operating costs. *See* 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*, 12 FCC Rcd at 19112-19113 ¶ 89-95 (1997).

[82] *Id. at 7.*

[83] *See id.* at 8.

[84] *See* 47 C.F.R. § 90.619.

frequency blocks are reserved for exclusive Canadian or Mexican use in the border areas while others are allocated for primary use by the United States.[85]

2. Relocation of Conventional SMR, Business and Industrial/Land Transportation Stations

33. Proponents of allowing incumbent Business, Industrial/Land Transportation and conventional SMR systems to remain in the 800 MHz band on a secondary basis to public safety stations should address the interference standard to be applied to such stations and how such stations could immediately cease operation in the event of interference to a public safety station without compromising the services provided to the public by the interfering stations. For example, it would not appear advisable to require a station associated with the restoration of electrical power service to precipitously discontinue service.

34. Nextel proposes to allow Business and Industrial/Land Transportation and conventional SMR systems to remain in the proposed Public Safety Block – on a secondary basis – after the band realignment.[86] However, it recommends that Business and Industrial/Land Transportation and conventional SMR licensees should be allowed to voluntarily relocate to the 700 MHz Guard Band (762-764 MHz/792-794 MHz) or to the 900 MHz SMR band (896-901 MHz/935-940 MHz).[87] To effect this relocation, Nextel would surrender 4 MHz of spectrum in the 900 MHz band and would make the 700 MHz Guard Band Block B spectrum – which it acquired at auction – available for use by Business, conventional SMR and Industrial/Land Transportation stations relocating from the 800 MHz band.[88] Nextel states that, under this approach, such stations can evaluate the local spectrum environment and determine whether they can remain on their current channel without causing interference, or whether they must relocate.[89] Nextel also suggests that these licensees would pay their own cost of relocation.[90]

35. Commenting parties proposing to relocate Business, Industrial/Land Transportation and conventional SMR licensees from the 800 MHz land mobile band should assess and report on what numbers of such licensees could effect the relocation merely by retuning their equipment versus those that would have to replace equipment. If retuning is possible, could it be accomplished consistent with the Commission's certification of the equipment? In that connection, we note that the 900 MHz SMR band is divided into 12.5 kHz channels. Thus, any

---

[85] *See, e.g.,* Arrangements Between the Dept. of Communications of Canada and the FCC of the United States Concerning the Use Along the US-Canada Border of the Band 806-890 MHz (February 1982, addendum, Dec. 1994); the Bands 821-824 MHz and 866-869 MHz (Sept. 1990); and the Bands 896-901 MHz (Sept. 1990); Protocol 3 of the Agreement Between the Government of the United States of America and the United Mexican States Concerning Use of the 806-824/851-859 and 896-901/935-940 MHz Bands for the Land Mobile Services Along the Common Border (June 1994).

[86] *See id.* at 8, 42.

[87] *Id.*

[88] *See id* at 28-30.

[89] *See id.* at 43.

[90] *See id.* at 41 n.54.

party proposing that incumbent 800 MHz incumbent licensees relocate to the 900 MHz band should address the question of whether existing 800 MHz equipment operating with a 25 kHz channel bandwidth could successfully be "narrowbanded"[91] for use in the 900 MHz band.

36. A related issue is whether it may be appropriate to reserve a portion of the proposed reconfigured 900 MHz Business and Industrial/Land Transportation band for use by Critical Infrastructure Industries (CII) – which the *Nextel Proposal* classifies as the water, gas, and electric power utilities.[92] In this regard, we note that the Commission has previously considered and rejected such a set aside in a somewhat different context.[93] In a petition for rule making, UTC, APA and AAR[94] argued that the communications of the power, chemical and railroad industries have a "quasi public safety" component and thus were deserving of a separate, exclusive channel pool in which they would be isolated from interference by stations in the Industrial/Business Pool.[95] The Commission found that the UTC proposal, if implemented, would have resulted in an inefficient use of spectrum and that, in any event, there were few documented cases of interference to CII stations in the Industrial/Business Pool.[96] We seek

[91] Narrowband, in the context used here, refers to any bandwidth less than 25 kHz, *e.g.* to 12.5 kHz or to 6.25 kHz.

[92] *See Nextel Proposal* at 46 and n.60, *citing* Department of Commerce, National Telecommunications and Information Administration, Request for Comment on Energy, Water and Railroad Service Providers' Spectrum Use Study, 66 FR 18447 (2001). The term "Critical Infrastructure Industries" (CII) does not appear to have a universal definition. It first came to the Commission's attention in a petition for rule making filed by UTC - The Telecommunications Council (UTC) (currently known as the United Telecom Council), the American Petroleum Institute (API) and the Association of American Railroads (AAR). There, the CIIs were defined as "electric gas and water utilities, petroleum and natural gas pipelines and railroads" – a more inclusive definition than that used by Nextel. *See* Establishment of Public Service Radio Pool in the Private Mobile Radio Frequencies Below 800 MHz, RM-9405, *Petition for Rulemaking* (Aug. 14, 1998) at 1.

[93] *See* Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended WT Docket No. 99-87; Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies; Establishment of Public Service Radio Pool in the Private Mobile Frequencies Below 800 MHz; Petition for Rule Making of The American Mobile Telecommunications Association, *Report and Order and Further Notice of Proposed Rule Making*, 15 FCC Rcd 22709 ¶¶ 97-103 (2000).

[94] *See* UTC - The Telecommunications Association, American Petroleum Institute, and Association of American Railroads Petition for Rulemaking (RM-9405) (filed Aug. 14, 1998) (UTC Proposal).

[95] *See id.* ¶ 99.

[96] *See* Implementation of the Provisions of Section 309(j) and 337 of the Communications Act of 1934, as Amended, Promotion of Spectrum-Efficient Technologies on Certain Part 90 Frequencies, Establishment of Public Service Radio Pool in the Land Mobile Radio Frequencies below 800 MHz, Petition for Rule Making of the American Mobile Telecommunications Association, WT 99-97, RM 9332, RM 9405, RM 9705, *Report and order and Further Notice of Proposed Rule Making*, 15 FCC Rcd 22709 ¶ 103 (2000). We note, however, that CII stations in the Industrial/Business Pool do have an exclusive coordination prerogative that affords them a degree of interference protection in the bands below 512 MHz. *See* Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, *Second Report* (continued....)

comment on whether the separate CII pool should be established if the 900 MHz Business and Industrial/Land Transportation band is used to accommodate incumbents relocating from the 800 MHz band. Proponents of such a pool should address the effect such a pool might have on the efficient use of frequencies in the 900 MHz band and any justification, *e.g.*, existing harmful interference to CII communications, for establishing such a pool. We also seek comment on what, if any, special coordination procedures might be warranted for the protection of CII communications. Likewise, we seek comment on whether it would be feasible or desirable to effect a CII set-aside were we to adopt other band plans.

3. Relocation Cost

37. There are two primary issues associated with relocation of incumbents: (1) whether the incumbent is entitled to reimbursement, and, if so, the associated costs; and (2) who should bear relocation costs – only the licensee that is displacing the incumbent; or that licensee together with additional licensees that somehow derive benefit from the relocation? Nextel recommends that CMRS licensees be required to pay a significant portion of the cost of relocating public safety systems from their current 800 MHz channels to channels in the proposed 800 MHz public safety block.[97] Specifically, Nextel argues that SMR, Business and Industrial/Land Transportation, 800 MHz cellular licensees – and public safety licensees themselves – should pay the cost of relocating 800 MHz public safety stations.[98] Nextel advances two reasons for its proposed cost assessment: (1) requiring public safety agencies to pay all costs of relocation would be an unexpected burden on state and local governments;[99] and (2) CMRS licensees would receive a benefit in the form of relief from having to resolve instances of interference to public safety stations.[100] Thus, for example, Nextel claims that cellular carriers should bear part of the cost of relocation of public safety systems because, after relocation, cellular carriers will be relieved of the burdens of detailed coordination requirements, operational limitations and channel use restrictions currently necessary to safeguard public safety communications from interference.[101] Nextel also contends that, under its realignment plan,

(Continued from previous page)
and Order, 12 FCC Rcd 14307, 14330 (1997) (Exclusive coordination prerogative on channels previously exclusively assigned to power, petroleum and railroad licensees); *see also* Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, *Fifth Memorandum Opinion and Order*, 16 FCC Rcd 416 (2000) ¶¶ 6-8 (exclusive coordination prerogative on channels previously assigned on a shared basis to industry-specific licensees).

[97] *See Nextel Proposal* at 39. Such costs may include engineering, legal, equipment and site costs, base station retuning costs, portable and mobile unit retuning or replacement costs, as well as any other reasonable costs of relocation to comparable facilities.

[98] *Id.* at 39, 41.

[99] *See id.* at 39.

[100] *Id.*

[101] The "burdens" that Nextel discusses relate to the carriers' voluntary efforts to mitigate interference. *See id.* at 39-40.

advanced SMR operators[102] will be able to consolidate spectrum holdings that are currently intermixed among Public Safety, Business and Industrial/Land Transportation systems, into contiguous, exclusive channel blocks.[103] It claims that this spectrum consolidation would give advanced SMR operators increased user capacity and freedom from operational limitations and coordination procedures, which would otherwise be necessary to reduce or prevent CMRS interference to public safety systems.[104] Nextel argues that Business and Industrial/Land Transportation users should contribute to relocate public safety licensees because their "new homes" in the 700 MHz or 900 MHz bands will allegedly be subject to less interference than their current channels.[105] This is also the reason advanced for Nextel's proposal that Business and Industrial/Land Transportation and conventional SMR licensees should be required to pay the costs of relocating their own stations from 800 MHz to other bands.[106]

4. Reimbursement of Relocation Costs

38. Nextel proposes to contribute up to $500 million toward the cost of relocating public safety systems from their current channels to channels in the proposed 800 MHz public safety block.[107] Under its proposal, Nextel also would assume the cost of relocating to the proposed digital SMR block systems that it now operates on the General Category channels and the interleaved channels.[108] To facilitate its realignment plan, Nextel urges the Commission to waive applicable fees associated with the license modification applications that would have to be filed by incumbents under the proposal.[109]

39. The *Nextel Proposal* suggests that, in identifying the costs eligible for reimbursement and establishing the associated procedures, the Commission should follow the approach it previously adopted in relocating incumbents from the upper 200 SMR channels in

---

[102] "Advanced SMR operators" is Nextel's term for SMR licensees who make use of digital modulation, low-power, low-site cellular architecture systems such as those employed by Nextel. *See id.* at 8.

[103] *See id.* at 40.

[104] *Id.*

[105] *Id.* at n.54.

[106] *See id.* at n.54. Nextel claims that Business, Industrial/Land Transportation and SMR licensees will be able to retune their systems to their proposed new allocated frequencies at a minimum cost.

[107] *See id.* at 39. Nextel asserts that its contribution is contingent upon the Commission's adoption of a Final Order: (1) creating a new digital advanced SMR channel block at 816/824 – 861/869 MHz, as described in the *Nextel Proposal*; (2) assigning to Nextel, licenses for the 6 MHz of spectrum (the current NPSPAC channels) in the proposed new advanced SMR channel block; and (3) reallocating for commercial use and assigning to Nextel, nationwide licenses for a contiguous 10 MHz of spectrum currently allocated and licensed to MSS at 2 GHz. *See id.* at n.52.

[108] *See id.* at n.53.

[109] *See id.* at 30.

the 800 MHz band.[110] Thus, Nextel states that costs incurred to relocate public safety incumbents from their current channel assignments to their new assignments would be eligible for reimbursement, while costs to expand or improve existing systems in the process would not be eligible for reimbursement.[111]

40. We anticipate that we will receive band realignment proposals, in addition to Nextel's, that involve the relocation of 800 MHz incumbents, either to other locations in the 800 MHz band or to other bands. Therefore, with respect to all 800 MHz land mobile restructuring plans, we request commenting parties to identify the class of relocating licensees that they believe should be entitled to reimbursement and to justify why that should be so.

5. Cost Reimbursement Proposals - Discussion

41. In the past, the Commission has employed various cost reimbursement arrangements. To make way for Emerging Technology (ET) services, ET providers were encouraged to reach voluntary relocation agreements with incumbent licensees. Failing that, the ET provider was required to guarantee payment of all relocation expenses, build the new facilities for relocated incumbents and demonstrate that the new facilities were comparable to those being replaced.[112] This approach to the relocation of incumbents was upheld in the context of the 18 GHz band.[113] However, the Commission has also on occasion required licensees to bear their own cost of relocation. Thus, in a case in which microwave facilities serving CATV systems were relocated to other frequencies, the incumbent operators were required to pay all of their own relocation costs.[114] We seek comment on which, if any, of this precedent is useful as a model for determining which 800 MHz licensees would be entitled to reimbursement in the event they were required to relocate from their existing frequencies. Assuming that a licensee is entitled to reimbursement, should only equipment and site costs, base station retuning costs, portable and mobile unit retuning costs be reimbursed, as suggested by Nextel,[115] or should engineering, legal and other administrative costs be included? For example, what reimbursement arrangements should be made for public safety licensees that have begun, but not completed, large-scale systems that may have to be re-engineered if the 800 MHz land mobile band is reconfigured? We will be able to make an informed decision on the reimbursement cost issue only if we have information on the cost of relocation for each of the categories of licensees that would have to be relocated under a particular band reconfiguration proposal. Accordingly, we request commenting parties to provide estimated relocation costs to the best of their ability.

42. With respect to the question of who pays the cost of relocation, there are several issues to be considered. We seek comment on whether a band relocation proponent should be required to bear the cost of relocating public safety systems – and Business, SMR and

---

[110] *See id.* at 42.

[111] *Id.*

[112] *See ET First Report and Order*, 7 FCC Rcd at 6890 ¶ 24.

[113] *See Teledesic, LLC v. FCC*, 275 F.3d 75 (D.C. Cir. 2001) *citing* 47 C.F.R. 101.91.

[114] *See Microwave/CATV Order*, 1 FCC 2d at 911 ¶ 42.

[115] *See Nextel Proposal* at 39.

Industrial/Land Transportation systems as well – and if so, the rationale underlying such a requirement. If a reimbursement requirement is imposed, should there be a ceiling, for example Nextel's $500 million limit, or should the financial obligation be open-ended? If it is proposed that a relocation proponent pay only a portion of relocation costs, what other party or parties would be responsible for the remaining cost and on what rationale? In that connection, we invite commenting parties to address the issue of whether – under any band reconfiguration scenario – public safety agencies should be required to bear all or some portion of the cost associated with relocation of their own facilities.

43. We also inquire whether a direct benefit must accrue before the Commission may require a licensee to pay for the relocation of another licensee. If the Commission were to divide relocation costs among licensees, what would be a rational basis for assessing costs among the several licensees? Is an arrangement feasible in which benefiting licensees voluntarily pay the cost of relocating incumbent 800 MHz licensees without the need for a Commission rule requiring reimbursement?[116] Any party proposing an 800 MHz band configuration should assess and report the estimated cost burden on affected industries. Thus, for example, although the *Nextel Proposal* asserts that there will be a benefit to 800 MHz SMR, Business and Industrial/Land Transportation licensees if they relocate to spectrum in the 700 MHz and 900 MHz bands, there is opinion to the contrary. According to the *ARINC Letter*, implementation of the *Nextel Proposal* would "impose billions of dollars of costs on American businesses" and would be an "unmitigated disaster from an operational and financial standpoint for America's industrial, transportation and utility sectors."[117] Thus, we ask commenting parties to quantify the degree, if any, to which displaced 800 MHz Business and Industrial/Land Transportation licensees would be financially disadvantaged by the *Nextel Proposal* or similar relocation proposals.

44. Regardless of the source of the funds for relocation of public safety systems, some mechanism would have to be established to collect and administer the funds. Thus, we seek comment on the best process to accomplish this task. In addition, the Commission presumably would have to establish dispute resolution procedures. We specifically seek comment on whether the dispute resolution method used in relocating incumbents from the upper 200 SMR

[116] The Commission has held that it has the authority – without adoption of specific rules – to permit cost-sharing that would spread the cost of band clearing among the licensees that benefit from the process. *See* Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, *Third Report and Order*, WT Docket No. 99-168, 16 FCC Rcd 2703, 2706-2707 ¶¶ 5-9 (2001). In facilitating clearing television channels 60-69 of incumbent television licensees, the Commission specifically declined to establish cost-sharing rules and instead relied on market-driven agreements to provide parties with the flexibility to negotiate cost-sharing arrangements based on individual situations. *See id.* at 2707 ¶ 9.

[117] Letter of December 20, 2001 to Michael Powell, Chairman, Federal Communications Commission, from Aeronautical Radio Inc., American Association of Railroads, American Petroleum Institute, Forest Industries Telecommunications, Industrial Telecommunications Association, MRFAC Inc. and United Telecom Council *et al.* (ARINC Letter). This letter and all other filings made with respect to the *Nextel Proposal* before this *NPRM* is issued will be made part of the record in this proceeding.

channels in the 800 MHz band, as recommended in the *Nextel Proposal*,[118] or some alternative dispute resolution procedure, such as arbitration or mediation, would be appropriate.

45. In considering proposals for reimbursement, commenting parties may wish to address whether any measures should be adopted to ensure complete and timely payment. Would it be advisable to include safeguards such as placing funds in escrow or requiring a letter of credit that would guarantee that, once relocation rules were established and licenses were modified, incumbent licensees would be guaranteed payment regardless of the then state of finances of the contributing party or parties?

46. Finally, assuming that the reconfiguration of the 800 MHz band yields "recovered spectrum", whether through refarming[119] or otherwise, could auctioning of such recovered spectrum garner funds that could be used to pay all or a part of the cost of relocation for public safety stations? In the alternative, to effect the same end, winning bidders could be required to relocate public safety systems as a prerequisite to receiving a license. In commenting, parties should address the statutory basis for implementation of such plans.

6. Feasibility of Relocation Proposals

47. Parties proposing to relocate licensees from the 800 MHz band to other spectrum should address the feasibility of their relocation proposal in detail, with emphasis on what measures would be undertaken to accommodate incumbent licensees in that other spectrum. In connection with the feasibility of the Nextel relocation proposal, we note that the 700 MHz Guard Band Block B spectrum to which Nextel proposes to relocate displaced 800 MHz licensees is heavily encumbered by incumbent television stations. *See* Appendix 1, Exhibit C. Indeed, Nextel, by implication, concedes this fact because, in its proposal, it observed that, because of incumbent television stations, public safety entities in most areas of the country will be unable to use the 700 MHz public safety band for some time.[120] Moreover, as noted earlier, equipment for use in this band is not yet available. We also note that Nextel does not hold Guard Band Block B spectrum in nine of the fifty-two Major Economic Areas (MEA). *See* Appendix One, Exhibit B. Nextel also proposes that relocating 800 MHz conventional SMR, Business and Industrial/Land Transportation licensees could use spectrum held by Nextel in the 900 MHz band. However, as with the 700 MHz band, Nextel does not hold 900 MHz spectrum nationwide. *See* Appendix One, Exhibit A. Thus, we also seek comment on how, if at all, relocating SMR, Business and Industrial/Land Transportation licensees could be accommodated in the 700 MHz and 900 MHz bands in those MEAs in which Nextel does not hold 900 MHz or Guard Band Block B spectrum.

48. Any commenting party recommending use of 700 MHz guard band spectrum for use by stations relocating from the 800 MHz band should address the technical rules necessary to insure that operations in that spectrum do not interfere with public safety communications in the 764-776 and 794-806 MHz band. In that connection, we note that the rules currently governing the 700 MHz guard bands include a frequency coordination requirement with 700 MHz public

[118] *See Nextel Proposal* at 42.

[119] *See* ¶ 27 *supra*.

[120] *See id* at 26.

safety licensees, a restriction against cellular architecture and strict adjacent channel coupled power (ACCP) and out-of-band emissions (OOBE) limits.[121]

7. Replacement Spectrum

49. The degree to which a relocation proponent, such as Nextel, may be required to contribute to the cost of relocating incumbent Public Safety, conventional SMR, Business and Industrial/Land Transportation licensees may hinge, in part, on whether the proponent is receiving "replacement spectrum" for the spectrum it is vacating as part of the relocation plan; and, if so, the value of the replacement spectrum relative to the spectrum being vacated. Candidate bands that could furnish replacement spectrum for cellular-type digital SMR licensees, such as Nextel, relocating from the 800 MHz land mobile band, include, but are not limited to: the 1910-1930 unlicensed PCS band; the 2 GHz MSS band, and the 2390-2400 unlicensed PCS band.

a. The 1910-1930 MHz Unlicensed PCS Band

50. In 1992, the Commission allocated the 1850-1990 MHz band to PCS.[122] In 1994, the Commission allocated 20 MHz of spectrum at 1910-1930 MHz for unlicensed PCS (UPCS) devices suitable for such purposes as the exchange of high- and low-speed data between computing devices, cordless telephones and wireless private branch exchanges (PBX).[123] In 2001, the Commission identified 1910-1930 MHz as one of the bands that could be used to support the introduction of advanced wireless systems, including third generation (3G) systems. It found that the band was lightly used for unlicensed devices, only forty-five of which had been approved by the Commission as of August 20, 2001;[124] and requested comment, *inter alia,* on whether the band could be used for advanced wireless services or by licensees that had been displaced from other bands that had been reallocated for advanced wireless services.[125] The Commission also sought comment on whether all of the 1910-1930 MHz band should be made available for isochronous voice UPCS devices or whether part of the band should be used for

---

[121] *See* Service Rules for the 746-764 and 776-794 MHz Bands and Revisions to Part 27 of the Commission's Rules, *Second Report and Order,* WT Docket 99-168, 15 FCC Rcd 529, 5306-5309 ¶¶ 14-19 (2000).

[122] Redevelopment Of Spectrum To Encourage Innovation In The Use Of New Telecommunications Technologies, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rule Making,* 7 FCC Rcd 6886 (1992).

[123] *See* Amendment of the Commission's Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, *Memorandum Opinion and Order,* 9 FCC Rcd 4957, 5037 (1994).

[124] *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, *Memorandum Opinion and Order and Further Notice of Proposed Rule Making,* ET Docket No. 00-258, ET Docket No. 95-18, and IB Docket No. 99-81, 16 FCC Rcd 16043, 16047-16048 and n.22.

[125] *Id.* at 16048.

community wireless networks, in response to petitions for rulemaking filed by WINForum and UTStarcom.[126]

51. If portions of the 1910-1930 MHz band were used as replacement spectrum, other paired spectrum would have to be identified, possibly from "abandoned spectrum," *i.e.*, spectrum that the Commission reclaims as a result of a 2 GHz MSS system proponent voluntarily turning in its license or missing its milestones.[127] We seek comment on the suitability of the 1910-1930 MHz band for replacement spectrum; and on what other band segments could be paired with the 1910-1930 MHz band. In view of the expenses incurred by UPCS for relocating the fixed microwave facilities in the 1910-1930 MHz band, how might these expenses be redistributed? Could existing UPCS operations continue in this band or would they have to cease?

b. The 2 GHz MSS Band

52. Any 800 MHz band relocation proposal that involves access to replacement spectrum in the 2 GHz MSS band, would have an effect on several of our ongoing proceedings involving that band. By way of background, the 1990-2025 MHz MSS spectrum falls within bands that the 1992 World Administrative Radio Conference (WARC-92) identified as spectrum that could meet the projected requirements of advanced wireless systems (commonly referred to as International Mobile Telecommunications 2000 (IMT-2000 or 3G)).[128] Specifically, the International Telecommunication Union (ITU) allocated the 1990-2025 MHz and 2165-2200 MHz bands on a co-primary basis to the Fixed, Mobile and Mobile-satellite Services in Region 2.[129] In addition, the ITU identified the 1980-2010 MHz and 2170-2200 MHz bands for the satellite component of IMT-2000.[130] In the United States, the Commission allocated the 1990-2025 MHz and 2165-2200 MHz bands to the MSS, effective January 1, 2000.[131] In August,

[126] *Id.* ¶ 13.

[127] *Id.* at 16056 ¶ 28.

[128] International Telecommunication Union (ITU) Radio Regulation S5.388, which was adopted at WARC-92, states that the 1885-2025 MHz and 2110-2200 MHz bands are intended for use, on a worldwide basis, by administrations wishing to implement IMT-2000, and that such use does not preclude the use of the bands by other services to which they are allocated.

[129] The frequencies 1980-2010 MHz and 2170-2200 MHz are allocated to the MSS on a primary basis worldwide; the frequencies 2010-2025 MHz and 2160-2170 MHz are also allocated to the MSS on a primary basis in the Americas (ITU Region 2). The allocation of 2010-2025 MHz and 2160-2170 MHz to MSS in Region 2 became effective January 1, 2002.

[130] *See* ITU-R Resolution 212 (Rev. WRC-97) and Resolution 716 (Rev. WRC-2000).

[131] *See* Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, ET Docket No. 95-18, *First Report and Order and Further Notice of Proposed Rule Making*, 12 FCC Rcd 7388 (1997) (*2 GHz MSS Allocation Order*) (international allocation of portions of the 2 GHz frequency band for mobile satellite service links adopted for use in the United States), aff'd on recon., *Memorandum Opinion and Order and Third Notice of Proposed Rule Making and Order*, 13 FCC Rcd 23949 (1998) (affirming 2 GHz MSS allocation and seeking further comment on relocation issues). The 1990-2025 MHz band is now being used by the Broadcast Auxiliary, Cable Relay and Local Television Transmission Service services. The 2110-2200 MHz band is currently used for fixed and multipoint distribution services.

2000, the Commission adopted the licensing and service rules for 2 GHz MSS, providing spectrum for all then-pending systems.[132] In 2000, the Commission also finalized the relocation procedures for incumbent Broadcast Auxiliary Services (BAS) at 1990-2025 MHz and incumbent FS facilities at 2165-2200 MHz. Specifically, BAS relocation from the 1990-2025 MHz band is to occur in two phases over several years and requires MSS licensees to relocate BAS licensees in the top Nielsen Designated Market Areas (DMAs) before MSS operations begin.[133] We also are considering changes to the incumbent relocation plan in light of our proposal in the *MSS Flexibility Proceeding* to introduce additional flexibility in the delivery of MSS communications.[134] FS relocation from the 2165-2200 MHz band occurs on an as-needed

[132] *See* Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, IB Docket No. 99-81, *Report and Order,* 15 FCC Rcd 16127 (2000) (2 GHz MSS R&O). On July 17, 2001, the Commission issued authorizations to eight 2 GHz MSS system proponents to provide 2 GHz MSS in the United States. *See* The Boeing Company, *Order and Authorization*, 16 FCC Rcd 13691 (Int'l Bur., 2001); Celsat America, Inc., *Order and Authorization*, 16 FCC Rcd 13712 (Int'l Bur., 2001); Constellation Communications Holdings, Inc., *Order and Authorization*, 16 FCC Rcd 13724 (Int'l Bur./OET, 2001); Globalstar, L.P., *Order and Authorization*, 16 FCC Rcd 13739 (Int'l Bur./OET, 2001); ICO Services Limited, *Order*, 16 FCC Rcd 13808 (Int'l Bur./OET, 2001); Iridium LLC, *Order and Authorization*, 16 FCC Rcd 13778 (Int'l Bur., 2001); Mobile Communications Holdings, Inc., *Order and Authorization*, 16 FCC Rcd 13794 (Int'l Bur./OET, 2001); TMI Communications and Company, *Order*, 16 FCC Rcd 13808 (Int'l Bur., 2001). Pursuant to the *2 GHz MSS R&O*, the authorizations provide each system with access to "Selected Assignments" of 3.5 MHz of spectrum in each of the 1990-2025 MHz and 2165-2200 MHz bands on a primary basis. Under the present licensing arrangement, MSS systems are authorized a certain amount of spectrum in each direction of transmission at the time of the initial authorization on a primary basis, *i.e.*, a "Selected Assignment." Each 2 GHz MSS operator must identify the specific frequencies of its Selected Assignment when the first satellite in its system reaches the intended orbit and notify the Commission in writing of its selection. *2 GHz MSS R&O*, 15 FCC Rcd at 16138 ¶ 16. Consistent with the *2 GHz MSS R&O,* an operator may also elect to operate outside its Selected Assignment on a secondary basis with respect to other 2 GHz MSS operators, subject to certain conditions. *See id.* at 16139-16140 ¶ 19.

[133] *See* Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, ET Docket No. 95-18, *Second Report and Order and Second Memorandum Opinion and Order*, 15 FCC Rcd 12315 (2000) (*2 GHz MSS 2R&O*), *recon. pending.* The first phase will free 18 megahertz of former BAS spectrum at 1990-2008 MHz for MSS use. It requires MSS to relocate BAS licensees in the top 30 Nielsen DMAs before MSS operations begin. Once MSS operations begin, BAS licensees are prohibited from operating in the 1990-2008 MHz range in all other markets. In Phase I, MSS licensees are required to relocate BAS licensees in the 1990-2008 MHz band in Nielsen DMAs 31-100 within three years after operations begin. The second phase will begin when the Phase I spectrum is no longer sufficient to meet MSS requirements. In Phase II, MSS is required to relocate BAS from the 2008-2023 MHz range in the top 30 Nielsen DMAs before operating in that range. Once MSS operations begin in the 2008-2023 MHz range, BAS in the remaining markets will be prohibited from operating in that range. MSS then has three years to complete relocation of BAS from 2008-2023 MHz in the Nielsen DMAs 31-100, and five years to complete BAS relocation from 1990-2023 MHz in all Nielsen DMAs. Finally, on September 6, 2010, all existing incumbent licensees become secondary in the 1990-2025 MHz band. *Id.*

[134] *See* Flexibility for Delivery of Mobile Satellite Services in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band; Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by Mobile Satellite Service, IB Docket No. 01-185, ET Docket No. 95-18, *Notice of Proposed Rulemaking*, 16 FCC Rcd 15532 (2001) (*MSS Flexibility NPRM*).

basis, *i.e.*, an MSS licensee must relocate incumbent FS microwave licensee if it determines that the MSS operations would cause interference to the incumbent FS operations.[135]

53. On August 9, 2001, we adopted the *Advanced Wireless Further NPRM* that, *inter alia*, explores the possibility of introducing advanced wireless services in bands currently designated for MSS.[136] In the *Further NPRM*, we asked for comments on reallocating spectrum in the 1990-2025 MHz and 2165-2200 MHz bands for advanced wireless services.[137] Specifically, we posed two approaches under which we may reallocate ten to fourteen megahertz of spectrum to advanced wireless services in the near term.[138] We noted that our proposal would make it possible to allocate the 2020-2025 MHz and 2165-2170 MHz frequency bands for other services, if supported in the record as being in the public interest.[139] We further noted that either approach would retain 56 to 60 megahertz of spectrum for MSS in the 1990-2020 MHz and 2170-2200 MHz bands.[140] We also sought comment on whether abandoned MSS spectrum[141] could be made available for use by other services.[142] Under any combination of approaches, we sought comment on whether we should retain at least 40 megahertz of spectrum for MSS in the 1990-2010 MHz and 2180-2200 MHz bands, where MSS is allocated globally and which WRC-2000 identified for the satellite component of IMT-2000.[143] In that regard, we proposed that any reallocation of existing MSS spectrum would not significantly impair any of the current licensees' rights and reasonable expectations to retain their current assigned spectrum allotments and would not prevent them from acquiring additional MSS spectrum for purposes of deploying and operating a fully matured 2 GHz MSS system.[144]

54. In the *Further NPRM*, we sought comment on how the BAS relocation plan would have to be modified to accommodate a reallocation of spectrum for advanced wireless use; what

---

[135] *See 2 GHz MSS 2R&O* at ¶¶ 76-78. Because relocating incumbent FS operations will, in some cases, involve channel pairs that operate in spectrum not reallocated to MSS, the Commission adopted cost-sharing reimbursement procedures between MSS and other entities. *Id.* at ¶¶ 95-102.

[136] *See Advanced Wireless Further NPRM*, 16 FCC Rcd 16043. The Commission delayed full implementation of the *2 GHz MSS R&O* with regard to an incremental 0.38 MHz of spectrum per license in each band, in order to allow the Commission to address proposals contained in the *Advanced Wireless Further NPRM*. *See id.* at 16054 ¶ 21.

[137] *See id.* at 16050-16059 ¶¶ 14-35.

[138] *See id.* at 16055-56 ¶ 24-27.

[139] *See id.* at 16055 ¶ 27.

[140] *Id.*

[141] "Abandoned spectrum" in the context used here, means spectrum that the Commission reclaims as a result of a 2 GHz MSS system proponent voluntarily turning in its license or missing its milestones. *Id.* at 16056 ¶ 28.

[142] *Id.* at 16056 ¶ 28.

[143] *Id.* at 16056 ¶ 29.

[144] *Id.*

the relocation responsibilities of new MSS and advanced wireless entrants would be; and whether new MSS and advanced wireless entrants would share the relocation costs on a pro rata basis.[145] We also sought comment on any effect the advanced wireless services reallocation options might have on FS incumbent relocation plans and procedures in the 2165-2200 MHz band, including relocation costs and the length of the negotiation period, among other issues.[146]

55. On August 9, 2001, we also adopted a *Notice of Proposed Rule Making* in the *MSS Flexibility Proceeding* requesting comment on proposals to introduce additional flexibility in the delivery of MSS communications.[147] In that proceeding, we are considering, *inter alia,* a proposal to permit authorized 2 GHz MSS operators the flexibility to conduct, on an ancillary basis, terrestrial operations in conjunction with their satellite services.[148]

56. In sum, portions of the 2 GHz MSS band could be used, as suggested by Nextel, in exchange for its surrender of currently licensed spectrum as part of an 800 MHz band restructuring plan.[149] Any such reallocation would be contingent on the Commission finding that the reallocation represented the highest and best use of the spectrum; and on an acceptable plan for relocating displaced BAS and FS licensees. We request comment on the use of portions of the 2 GHz MSS band as replacement spectrum and on the means of equitably relocating BAS and FS incumbents in this band.

c. The 2390-2400 MHz Unlicensed PCS Band

57. The 2390-2400 MHz band was allocated to unlicensed asynchronous PCS devices in 1995.[150] However, the Amateur Radio Service was given primary status in this band because the Commission found that low power, unlicensed devices were unlikely to interfere with amateur communications.[151] When the Commission elevated the Amateur Radio Service to primary

---

[145] *Id.*

[146] *See id.* at 16058 ¶ 34.

[147] *See* Flexibility for Delivery of Mobile Satellite Services in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band; Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by Mobile Satellite Service, IB Docket No. 01-185, ET Docket No. 95-18, *Notice of Proposed Rulemaking*, 16 FCC Rcd 15532 (2001) (*MSS Flexibility NPRM*).

[148] *See id.* at 15546-15548 ¶¶ 29-36.

[149] For example, Nextel proposes that two 5 MHz spectrum blocks be allocated to it, on an exclusive basis, in exchange for 700, 800 and 900 MHz spectrum it would vacate to effect its 800 MHz band restructuring proposal. *See Nextel Proposal* at 39 (Nextel's contribution is contingent on Nextel obtaining use of the NPSPAC channels and 10 MHz of MSS spectrum.) We note that the frequencies in the *Nextel Proposal,* 2025-2030 MHz and 2170-2175 MHz, do not match the frequencies that are proposed for reallocation to advanced wireless services in the near term in the *Advanced Wireless Services Proceeding, i.e.,* 2025 MHz and 2160-2170 MHz.

[150] *See* Allocation of Spectrum below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, *First Report and Order and Second Notice of Proposed Rule Making*, 10 FCC Rcd 4769, 4779-80 ¶¶ 16-17 (1995).

[151] *See Advanced Wireless Further NPRM* at 16048-16049.

status in this band, it rejected use of the band by wide-area, high power, fixed and mobile stations.[152] In the *Advanced Wireless Further NPRM*, the Commission identified 2390-2400 MHz as a candidate band for advanced wireless services and sought comment, *inter alia,* on whether advanced wireless services, the Amateur Radio Service and unlicensed PCS could co-exist in this band.[153] In this proceeding, if commenting parties believe that incumbent amateur services cannot co-exist with relocated 800 MHz services, we seek comment on whether incumbent amateur services could be relocated, what spectrum could be used for their relocation, and what procedures would apply to such relocation. Could existing UPCS operations continue in this band, or would they have to cease? We ask commenting parties to discuss the suitability of the 2390-2400 MHz band as replacement spectrum and whether there are other band segments with which this band could be paired. We also note that the adjacent 2385-2390 MHz band is slated for auction.[154]

d. Other Bands

58. The discussion of the above three bands as sources of replacement spectrum is meant to be illustrative rather than exclusive. Other bands or band segments may also merit consideration. Commenting parties should identify any other spectrum which they believe to be more suitable than that discussed above. Any such proposal for alternative bands should include a full discussion of how incumbents would be accommodated and the effect that using those bands for replacement spectrum would have on, *e.g.* the *Advanced Wireless Services* proceeding.

59. Regardless of the band it may recommend, any commenting party urging use of replacement spectrum should relate how the amount of replacement spectrum would be determined. For example, is a "megahertz for megahertz" swap of spectrum appropriate,[155] or should factors other than the raw amount of spectrum, *e.g.* the relative value of spectrum, be taken into account? In assessing the value of existing spectrum, parties should address the coverage of such spectrum as it relates to the coverage of replacement spectrum. For example, is there justification for swapping existing spectrum which covers only a portion of the country for replacement spectrum which provides nationwide coverage?[156] Commenting parties should also address whether use of their proposed replacement spectrum would preserve sufficient spectrum

---

[152] *Id.* at 16049.

[153] *Id.* The Commission also asked for comment on whether the 2390 – 2400 MHz band could be shared with government users. *Id.*

[154] *See* Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429- 1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, WT Docket No. 02-08, *Notice of Proposed Rule Making,* FCC 02-15 (rel. February 6, 2002).

[155] Nextel proposes to swap 10 MHz of 700, 800 and 900 MHz spectrum for two 5 MHz blocks of spectrum in the 2 GHz MSS band. *See Nextel Proposal* at 56.

[156] The 700 and 900 MHz spectrum that Nextel proposes to swap for 2 GHz spectrum does not have nationwide coverage. *See* Appendix One, Exhibits A and B. Moreover, its 700 MHz spectrum not only does not cover the entire United States, it is also seriously encumbered by incumbent television stations. *See* Appendix One, Exhibit C. Nextel has not explained how it would free this spectrum of television station incumbents.

for advanced wireless, MSS or other services; and whether the needs of incumbents would be adequately accommodated were the replacement spectrum proposal implemented.

60. We note that both the *Advanced Wireless Services* proceeding as well as the *MSS Flexibility NPRM* already seek comment on, or involve issues that would directly bear upon, any modification to the current relocation process and rules we adopted in the *2GHz MSS 2R&O*. We also note that a motion to stay the mandatory MSS/BAS negotiation period and several petitions for reconsideration have been filed with regard to various decisions made in the *2GHz MSS 2R&O*. We believe that the record generated in those other proceedings addresses, at least in part, the structure of the relocation process and the relative relocation responsibilities of MSS, BAS, FS, and potentially, land mobile services in any spectrum reassignment scenario that might be adopted. Therefore, to avoid generating cumulative or repetitive comments in contemporaneous proceedings, we do not seek comments on those concerns in this *NPRM*, and instead request that parties cross-reference relevant comments filed in these pending proceedings. However, any party that proposes replacement spectrum in the 2 GHz MSS band, should file comments narrowly tailored to address the potential impact on the relocation procedures we adopted in the *2GHz MSS 2R&O*, as well as the potential impact on the *MSS Flexibility NPRM* and *Advanced Wireless Services* proceedings. Finally, we place parties on notice that the pending *MSS Flexibility* and *Advanced Wireless Services* proceedings may be concluded before the instant proceeding, thereby possibly affecting the options available with regard to replacement spectrum in connection with an 800 MHz band restructuring plan.

E. Primary/Secondary Status

61. Any commenting party recommending reconfiguration of the 800 MHz band should address whether or not incumbents should be permitted to remain on their current frequencies on a non-interference basis; and, if so, what obligations the licensee would have in the event interference occurred. The Commission has previously granted incumbent licensees in other services the option of either retaining their existing licensed channels on a secondary, non-interference basis or voluntarily relocating their operations on a preferential basis during an accommodation period.[157] Nextel proposes that incumbent Business, Industrial/Land Transportation and SMR systems could remain on their current channels on a secondary, non-interference basis but is silent on what should occur if interference is identified. We seek comment on whether such status would be feasible, or desirable, under a given band restructuring plan. We also solicit comment on whether relegating a licensee to secondary status constitutes license modification giving rise to hearing or protest rights under Section 316 of the Communications Act of 1934, as amended.[158]

---

[157] *See* Establishment of a Spectrum Utilization Policy for the Fixed and Mobile Services' Use of Certain Bands between 947 MHz and 40 GHz, *First Report and Order*, Gen. Docket No. 82-334, 48 Fed. Reg. 50722 (1983). In this rulemaking proceeding, the Commission gave 12 GHz incumbent Operational Fixed Service licensees the option of retaining their existing licensed facilities on a secondary basis to the Direct Broadcast Satellite Service, or relocating their operations on a preferential basis during a five-year accommodation period.

[158] *See* 47 U.S.C. § 316. Precedent, in another context, suggests that such rights would not arise. *See DEMS MO&O*, 13 FCC Rcd at 15152 ¶ 12, in which the Commission held that to effectuate the relocation at issue there, it would exercise its Section 316 authority. Section 316 provides that any station license or construction permit may be modified by the Commission for a limited time or for the (continued....)

F. Proposed Implementation Schedule

62. Given the urgency of remedying interference to 800 MHz public safety systems, it is important that any band restructuring proposals be timely effected, taking into consideration, however, the fact that too precipitous an implementation schedule could unreasonably burden stations that are required to relocate. Accordingly, any proponent of 800 MHz land mobile band restructuring should include in its comments, best estimates of the time required to implement each element of its proposal. In that connection, we note that a previous relocation in this band required more than two years to implement. Thus, the relocation of incumbents in the upper 200 SMR channels of the 800 MHz band employed a relocation mechanism consisting of a two-year negotiation period followed by an involuntary relocation period.[159] The involuntary relocation period was triggered if parties could not reach an agreement during the negotiation period.[160] Therefore, we seek comment on whether a similarly structured timetable would be necessary to effect restructuring of the 800 MHz band and possible relocation of 800 MHz conventional SMR, Business and Industrial/Land Transportation systems.

63. The speed with which relocation could be accomplished would depend in large part on: (a) whether restructuring was to be accomplished wholly within the 800 MHz band or whether relocation to other bands is proposed; and (b) whether the equipment in existing systems could be merely retuned or would have to be replaced.[161] Thus, it would appear that proposals involving only in-band restructuring, as proposed by NAM, could be effected more rapidly than proposals, such as Nextel's, which require out-of-band relocation.

64. The *Nextel Proposal* requires all public safety systems operating on the NPSPAC channels (821-824 MHz/866-869 MHz) to relocate to the proposed Public Safety Block (806-816 MHz/851-861 MHz). Nextel's proposed schedule for channel exchange and retuning for public safety systems and advanced low-power, low-site (cellular architecture) digital SMR systems gives first priority to systems in areas where relocation is necessary to resolve cases of interference.[162] Second priority is given to areas where public safety systems are likely to receive interference in the future as CMRS transmitters, over time, become more numerous and highly loaded.[163] Specifically, band restructuring would be complete within:

- Twelve months from the effective date of a *Report and Order* for markets with acute, unresolved CMRS interference;

(Continued from previous page)
duration of the term thereof, if in the judgment of the Commission such action will promote the public interest, convenience and necessity.

[159] *See* 47 C.F.R. § 90.699.

[160] *See* 47 C.F.R. § 90.699(c).

[161] In that connection, we note that there currently is no Commission-certified infrastructure equipment for the 700 MHz band where Nextel proposes to relocate incumbent Business, Industrial/Land Transportation and SMR licensees.

[162] *See Nextel Proposal* at 47-48.

[163] *Id.*

- Twenty-four months from the effective date of a *Report and Order* for the remaining top 30 Economic Areas;
- Thirty months from the effective date of a *Report and Order* for the top 80 Economic Areas;
- Thirty-six months from the effective date of a *Report and Order* for all remaining areas.[164]

65. Under this proposal, public safety licensees experiencing interference from CMRS, which interference cannot be controlled by short-term corrective measures such as lower CMRS power or higher CMRS antennas, would have the right to request advance re-location of their systems or advancement of their market on the channel exchange schedule.[165] We seek comment on Nextel's proposed schedule, including any modifications thereof that would hasten mitigation of CMRS interference to public safety systems in the 800 MHz band. We also seek comment on the nature of a relocation schedule that would be consistent with the *NAM Proposal.*

G. Fee Waiver

66. Another issue is whether, in connection with any relocation proposal that we may adopt, we could waive all associated regulatory fees.[166] Nextel cites Section 9(d) of the Communications Act[167] for the authority that we could grant such a blanket waiver if we find that to do so would advance the public interest.[168] However, Section 1.1166 of our Rules[169] concerning waivers, reductions and deferrals of regulatory fees, states that: "Requests for waivers . . . of regulatory fees for entire categories of payors will not be considered."[170] Recently, the Commission had the opportunity to address a similar request for a blanket waiver of the fees associated with cable landing licenses.[171] In that case, the Commission determined that Section 9 of the Communications Act[172] did not allow "blanket" fee waivers and that waiver requests could be considered only on a "per application" basis.[173] Even when such waivers are

[164] *Id.* at 47.

[165] *Id.* at 47-48.

[166] 47 C.F.R. § 1.1166.

[167] 47 U.S.C. § 159(d).

[168] *See Nextel Proposal* at 47-48.

[169] 47 C.F.R. § 1.1166.

[170] *See Nextel Proposal* at 30.

[171] Review of Commission Consideration of Applications Under the Cable Landing License Act, IB Docket No. 00-106, *Notice of Proposed Rule Making,* 15 FCC Rcd 20789 (2000) (*Cable Landing License Fees NPRM*)

[172] 47 U.S.C. § 159.

[173] *Cable Landing License Fees NPRM,* 15 FCC Rcd at 20727-20828 ¶ 91. Note, however, that the Commission may amend the Schedule of Regulatory Fees "to reflect the additions, deletions, or (continued....)

submitted individually, as Section 1.1166 allows, the Commission has said that it exercises its authority to grant such waivers "only rarely and . . . not . . . lightly."[174] Individual fee waiver requests must "unambiguously articulat[e] 'extraordinary and compelling circumstances' outweighing the public interest in recouping the cost of the Commission's regulatory services from a particular regulatee."[175] However, we note that licensees relocating from 800 MHz channels would not have to file a modification application – and hence would not have to pay an application fee – if the Commission were to modify their licenses pursuant to the "public interest, convenience, and necessity" proviso in Section 316 of the Act.[176] Thus, for example, in the *DEMS Proceeding*, the Commission directed the Wireless Telecommunications Bureau to issue new licenses, specifying new frequencies, for DEMS licensees that were required to relocate from the 18 GHz band to the 24 GHz band.[177] No modification applications were required and no application fees were paid. We seek comment on whether there would be sufficient public interest justification to treat relocating 800 MHz licensees under the *Nextel Proposal*, the *NAM Proposal* or some alternative plan in the same manner. We also request comment on whether required relocation of SMR, Business and Industrial/Land Transportation stations would be the kind of extraordinary and compelling circumstance that would justify a waiver of the per-application regulatory fee associated with relocation. In commenting on this issue, parties should take into account the burden on the applicant in drafting the waiver request and on the Commission in processing it, *i.e.*, whether those burdens would outweigh the monetary relief afforded.

H. Frequency Coordination

67. Any 800 MHz land mobile band reconfiguration will require frequency coordination of relocated channels in order to avoid the potential for interference and assure efficient use of the spectrum. We seek comment on whether such coordination could be satisfactorily performed by our current certified frequency coordinators, or whether we should certify a "super coordinator" to oversee restructuring of the 800 MHz band.

68. A Private Land Mobile Radio (PLMR) frequency coordinator or frequency advisory committee (FAC) is a private-sector entity or organization that the Commission certifies to

(Continued from previous page)
changes in the nature of its services as a consequence of Commission rulemaking proceedings or changes of law . . ." *Id.* at 20829 *citing* 47 U.S.C. § 159(b)(3). Here, however, there would be no apparent change in the nature of the Commission's services in processing requests for modification of license to effect relocation of incumbents.

[174] Application of Columbia Communications Corporation For Partial Waiver of its Regulatory Fee Payment for Two Geostationary Space Stations, *Memorandum Opinion and Order*, 14 FCC Rcd 1122, 1123 (1999).

[175] Implementation of Section 9 of The Communications Act, Assessment and Collection of Regulatory Fees for the 1994 Fiscal Year, MD Docket No. 94-19, *Report and Order*, 9 FCC Rcd 5333, 5344 ¶ 29 (1994).

[176] 47 U.S.C. § 316.

[177] *See* Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz Band to the 24 GHz Band and to Allocate the 24 GHz Band for Fixed Service, DA 97-1285, 12 FCC Rcd 8266 (WTB, PSPWD 1997).

recommend the most appropriate frequencies for use by licensees in the PLMR services.[178] Public safety frequency coordinators are certified to coordinate, *inter alia,* 800 band MHz public safety spectrum, including the NPSPAC channels,[179] and the Public Safety 700 MHz band General Use channels (a total of 12.5 megahertz of 700 MHz band spectrum that is available for licensing to local, regional, and state public safety providers).[180]

69. In 1987, the Commission adopted a Public Safety National Plan that, among other things, established RPCs to manage the NPSPAC channels.[181] Under the regional planning approach used for the 800 MHz band, the nation was divided into regions that would have as much autonomy as possible to develop plans that met their different communications needs.[182] Each region formed a planning committee (RPC) to develop a regional plan to meet its specific communications needs. In 1998, the Commission adopted a 700 MHz regional planning process, similar to the 800 MHz regional planning process, to manage the use of the 700 MHz band General Use channels.[183]

70. Nextel believes that the Commission should certify a "Public Safety Realignment Frequency Coordinator" (the "Public Safety Special Coordinator" or PSSC)[184] and a Business and Industrial/Land Transportation Realignment Frequency Coordinator (the "B/ILT Special Coordinator"). Under the *Nextel Proposal,* the PSSC would include a representative from each of the current four frequency coordinators certified to coordinate 800 MHz public safety spectrum,[185] representatives from the existing NPSPAC Regional Planning Committees (RPCs),

---

[178] For the Part 90 definition of a frequency coordinator *see* 47 C.F.R. § 90.7. *See also* Frequency Coordination in the Private Land Mobile Radio Services, PR Docket No. 83-737, *Report and Order*, 103 FCC 2d 1093, 1094 ¶ 1 (1986) (*Frequency Coordination Report and Order*).

[179] *See* AASHTO *et al.*, *Order*, 16 FCC Rcd 14530, 14541-42 ¶ 17 (WTB, PS&PWD 2001) (*800 MHz Order*). FCCA, *Public Notice*, 16 FCC Rcd 16401 (WTB, PS&PWD, 2001). We note that the four public safety frequency coordinators are also certified to coordinate 800 MHz General Category frequencies (Channels 1-150). *800 MHz Order,* 16 FCC Rcd at 14542-43 ¶ 18.

[180] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, Establishment of Rules and Requirements For Priority Access Service, *First Report and Order and Third Notice of Proposed Rulemaking*, WT Docket No. 96-86, 14 FCC Rcd 152, 200 ¶ 98 (1998) (*700 MHz First Report and Order*).

[181] *See* 47 C.F.R. § 90.16. The National Public Safety Plan was established in General Docket No. 87-112. *See* Development and Implementation of a Public Safety National Plan and Amendment of Part 90 to Establish Service Rules and Technical Standards for Use of the 821-824/866-869 MHz Bands by the Public Safety Services, Gen. Docket No. 87-112, *Report and Order*, 3 FCC Rcd 905 (1987) (*National Plan Report and Order*).

[182] *Id.* at 906 ¶ 10.

[183] See 700 MHz First Report and Order, 14 FCC Rcd at 200 ¶ 98.

[184] *See Nextel Proposal* at 37-38.

[185] The certified 800 MHz public safety frequency coordinators are APCO, Association of State Highway Transportation Officials (AASHTO), Forestry Conservation Communications Association (continued....)

and the new 700 MHz RPCs.[186] The B/ILT Special Coordinator would be made up of the coordinators currently responsible for PLMR frequency coordination in the 800 and 900 MHz bands.[187] We ask commenting parties to address whether additional coordinators should be certified, either as proposed by Nextel or some other formulation, or whether the task of overseeing 800 MHz band restructuring should be assigned to our existing coordinators. Regardless of what option commenting parties may elect, they should describe how the coordinators would: (a) designate new assignments in the Public Safety Block that would reduce or eliminate CMRS interference; and (b) ensure that incumbent licensees receive modified licenses that are geographically and spectrally equal to or better than their original licenses.[188] We also solicit comment on the advisability of employing a "band manager" for the 800 MHz public safety band in a manner similar to that inaugurated by the Commission in the 700 MHz guard bands.[189] Commenting parties should also address what coordination procedures should be required, including Nextel's proposals for use of a common 800 MHz database and of agreed-upon computer programs for the prediction of signal and interference levels.[190] We also seek comment on the interplay between a PSSC or similar organization and the 700 and 800 MHz RPCs and on what rule changes would be required to implement new coordinators. Commenting parties should also address the fees that would be charged by a PSSC or similar organization and who should be responsible for payment of such fees.

71. Under the *Nextel Proposal,* the B/ILT Special Coordinator would perform essentially the same functions for its constituency as the PSCC would perform for Public Safety entities.[191] Thus, we seek comment on the same issues that we identified *supra* relative to the proposed PSSC coordinator. We also seek comment on whether the Commission should consider requiring the B/ILT Special Coordinator to designate a portion of the new 900 MHz band channel block intended for traditional SMR Business and Industrial/Land Transportation licensees for advanced technology Business and Industrial/Land Transportation private systems.[192] Nextel contends that many Business and Industrial/Land Transportation licensees,

(Continued from previous page)
(FCCA), and International Association of Fire Chiefs/International Municipal Signal Association (IAFC/IMSA).

[186] *See Nextel Proposal* at 37-38.

[187] The certified PLMR coordinators for this spectrum are the American Mobile Radio Telecommunications Association (AMTA), the Industrial Telecommunications Association, (ITA), PCIA, UTC, MRFAC and Forest Industries Telecommunications (FIT)

[188] *See Nextel Proposal* at 37.

[189] *See* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, FCC 01-192, *Sixth Report* 16 FCC Rcd 13350 n.13 (2001) ("The Guard Band Manager is a new class of commercial licensee engaged solely in the business of leasing spectrum to third parties on a for-profit basis. The Guard Band Manager may subdivide its spectrum in any manner it chooses and make it available to system operators, or directly to end users for fixed or mobile communications.").

[190] *See Nextel Proposal* at 38.

[191] *See id.* at 43-44.

[192] *See id.* at 44-45.

including utilities, have acquired and operate advanced, multiple site, frequency reuse communications systems using the same network architecture as CMRS systems.[193] We seek comment on Nextel's proposal that the Business and Industrial/Land Transportation Special Coordinator should designate certain frequencies in the 900 MHz band for the exclusive use of such systems to prevent creating in the 900 MHz band the type of mixed and interleaved spectrum licensing that has been the source of interference in the 800 MHz band.[194]

V. COMPLEMENTARY SOLUTIONS

72. We seek comment on whether 800 MHz band realignment, standing alone, would be sufficient to completely eliminate harmful interference created by CMRS stations to public safety systems, or whether additional palliative measures might be required. For example, the *Best Practices Guide* asserts that an additional degree of interference protection would be afforded if "more interference-resistant public safety handheld and mobile receiver units" were deployed.[195]

73. The Commission historically has been reluctant to impose standards on the telecommunications industry unless they are absolutely necessary to address an interference problem that is not being solved by market forces. This stance has been especially true with regard to receiver standards.[196] However, we note that the matter of receiver standards is currently under consideration in the public safety proceeding concerning the 700 MHz public safety band.[197] There, the Public Safety National Coordination Committee (NCC) has recommended adoption of the American National Standards Institute (ANSI) Grade A receiver standards for the 700 MHz band Interoperability Channels.[198] We seek comment on what specific receiver characteristics may be necessary to avoid interference in the 800 MHz public safety band. Commenting parties should include recommendations for receiver overload

[193] *See id.* at 44 n.59. For example, Nextel contends, some utility companies are implementing high- power, high-site "IDEN" systems, to obtain more capacity and robust in-building coverage. *Id.* Nextel suggests that these systems and high-site, high power traditional analog SMR and B/ILT system designs should be able to coexist with little or no special planning or frequency coordination. *Id.* Presumably, Nextel's conclusion is premised on the fact that these utility systems are "high site" in nature and therefore do not pose the same potential for interference as "low site" systems of the kind employed by Nextel. Should this favorable interference scenario not be the case, however, Nextel suggests that the B/ILT Special Frequency Coordinator should set aside spectrum for this type of high-power, high-site type of system or that the Commission should impose operating requirements or other limiting parameters to ensure compatibility. *Id.*

[194] *See id.* at 44-45.

[195] *Best Practices Guide* at 11.

[196] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, Establishment of Rules and Requirements For Priority Access Service, WT Docket No. 96-86, *Notice of Proposed Rule Making,* 11 FCC Rcd 12460 ¶ 68 (1996).

[197] *Id.*

[198] *See* letter dated August 7, 2001, from Kathleen Wallman, Chair, NCC to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission.

characteristics,[199] RF selectivity,[200] intermodulation rejection,[201] adjacent channel rejection[202] and sensitivity.[203] We also seek comment on the probable lead time necessary to get improved receivers into the marketplace and estimates of the cost of replacing current receivers with the improved models. We likewise seek comment on whether receiver standards should be incorporated into the Commission's Rules or whether an industry standard, *e.g.*, a standard promulgated by ANSI, would suffice to realize the requisite interference rejection improvements. Commenting parties should also indicate whether a common receiver standard or separate receiver standards should be adopted for analog and digital systems; and, if separate standards are proposed, whether one standard could be made applicable to all digital transmission modes.

74. We believe that improvements in the 800 MHz public safety band could result if we imposed more stringent limits on the out-of-band (OOBE) emissions of CMRS transmitters potentially affecting satisfactory reception of public safety communications. Commenting parties are therefore asked to recommend a value, referenced to the CMRS carrier, that they believe would provide sufficient interference protection.[204] Commenting parties should also address whether it is feasible to specify an aggregate OOBE limit for all transmitters installed at a given site; and, if so, how aggregate OOBE signals would be calculated or measured. We also seek comment on whether more stringent OOBE limits should be imposed retroactively on the transmitters now in operation in the field; and, if so, the amount of time that should be allowed for licensees to come into compliance.

75. The existence of interference can be defined in terms of the ratio of the desired (public safety) signal to the undesired (interfering) signal. Thus, improving the interference environment can be achieved by increasing the level of the desired signal as well as reducing the level of the interfering signal. Accordingly, interference could be reduced if public safety systems provided a more robust signal in areas in which interference from cellular architecture digital SMR systems is anticipated. In some few instances, this more robust signal could be achieved simply by increasing the effective radiated power or antenna height of the public safety station. However, in most cases, provision of a more robust signal would involve the construction of additional public safety base stations, a not insubstantial expense. We seek comment on what level of public safety signal would be sufficient to provide a significant

---

[199] For example, Nextel recommends that receivers should operate satisfactorily in the presence of CMRS signals having a composite average power of −10 dBm, a peak-to-average ratio of 15 dB and CMRS OOBE typical of a CMRS transmitter operating in conformity with FCC regulations. *See Nextel Proposal* at 32-33.

[200] Nextel recommends that receiver front end selectivity should be such that signals outside the public safety band are attenuated by at least 20 dB. *Id.*

[201] Nextel recommends that receiver intermodulation rejection be 75 dB or better. *Id.*

[202] Nextel recommends that adjacent channel rejection be 75 dB or better. *Id.*

[203] Nextel recommends that receiver reference sensitivity be -112 dBm or better. *Id.*

[204] One option, recommended by Nextel is that the CMRS OOBE be attenuated by at least 75 dB in the public safety band. *Id.*

mitigation of interference when public safety mobile or portable units are operating in the vicinity of a cellular architecture digital SMR base station.[205]

76. The corollary to the interference solution discussed in paragraph 75, *supra,* is that interference – particularly overload interference – could be mitigated if the signal of the CMRS station were reduced. Currently, some CMRS systems are designed to provide strong "on the street" signal levels. In general, this is achieved by using relatively low transmitting antenna heights and employing "downtilt" of the antenna so that the main vertical lobe of the antenna falls in the area in which reception is desired – generally an area in the immediate vicinity of the base station. Thus, a degree of interference protection could be achieved if the use of relatively low antenna elevations and antenna downtilt were avoided. We therefore seek comment on whether we should impose a maximum limit on the signal field at a specified distance from CMRS transmitters operating in the vicinity of the 800 MHz public safety band. Commenting parties should address the cost of such a solution and the effect it might have on the ability of CMRS subscribers to receive a sufficiently reliable signal.[206]

77. Providing a guard band between the public safety band and bands used by cellular architecture digital SMR and cellular carriers could provide a degree of relief from CMRS interference. However, guard bands are antithetical to spectrum efficiency and we therefore are reluctant to recommend their use unless all other interference-reduction mechanisms prove inadequate. Commenting parties are asked to address whether a guard band would provide significant interference abatement in the 800 MHz public safety band and, if they believe so, to recommend the minimum width of an effective guard band.[207] We also request comment on whether a guard band, if implemented, should come from public safety spectrum, CMRS spectrum or a combination of the two. We also solicit comment on whether it is feasible to establish communications systems that could operate in the guard band without causing harmful interference to, or receiving harmful interference from, services operating on the immediately adjacent frequencies.[208]

78. Finally, commenting parties should address whether 800 MHz band reconfiguration and the complementary measures, discussed *supra,* should be applied in two phases, *i.e.* a restructuring of the bands, followed by an evaluation of the results thereof, and then by an assessment of the need for complementary measures necessary to achieve an interference-free environment for 800 MHz public safety communications.

---

[205] Nextel believes that public safety stations should maintain a minimum received signal level of 53 dBμV/m in all areas that require interference protection from CMRS stations. *Id.*

[206] We note that Nextel has rejected such a solution on economic grounds. *See id.* at 36. However, we are not disposed rule out the solution only on the basis of an unquantified claim of economic harm.

[207] As set forth above, Nextel claims that a minimum 2 MHz guard band may be necessary in the upper portion of its proposed Public Safety Block to forestall interference from low-power, low-site digital SMR stations that would operate in the band immediately above. *See* para. 22 *supra.*

[208] *See Nextel Proposal* at 33-34.

VI. COMPETITIVE BIDDING CONSIDERATIONS

79. We tentatively conclude that neither the doctrine enunciated in *Ashbacker Radio Corp. v. FCC* (*Ashbacker*),[209] nor the competitive bidding provisions of Section 309(j) of the Communications Act, as amended,[210] would be applicable to the 800 MHz land mobile band restructuring plans advanced to date. In *Ashbacker,* the Supreme Court held that a comparative hearing is required when competing applicants file conflicting license or construction permit applications for the same license.[211] Thus, in spectrum not subject to the competitive bidding provisions – such as public safety frequencies – competing applicants for station licenses for unused frequencies that are mutually exclusive with one another are generally resolved using comparative procedures.[212] In the case of channel exchanges, however, the *Ashbacker* ruling does not apply because the channels are occupied rather than "open."[213] The *Nextel Proposal* envisions incumbents in the 700, 800 and 900 MHz bands effectively exchanging their current channel assignments for alternative assignments to eliminate the underlying causes of CMRS interference to public safety systems. From one point of view, this proposal would appear to be a matter of channel exchanges or "swaps" rather than a matter of competing mutually exclusive license applications.[214] Previously, we have allowed licensees to modify their licenses to a different frequency pursuant to the provisions of Section 316 of the Act.[215] We believe that, in general, the Commission may develop realignment plans, such as the plan proposed by Nextel or the *NAM Proposal*, without the necessity of considering the subject frequencies "open" channels.[216] We seek comment on these issues. We invite comment on whether or not a swap is voluntary has implications for the Ashbacker analysis.

80. However, with regard to Nextel's proposal to swap 700, 800 and 900 MHz channels for 10 MHz of currently allocated and licensed 2 GHz MSS spectrum, this situation is somewhat different from other situations involving swaps or exchanges. In this instance, Nextel proposes that it would have exclusive, nationwide access to the 10 MHz in the 2 GHz MSS band, and that MSS licensees who would lose the use of that 10 MHz of 2 GHz MSS spectrum would not be given comparable spectrum in any other band. Thus, we request comment as to whether

---

[209] *Ashbacker v. FCC,* 26 U.S. 327 (1945) (*Ashbacker*).

[210] 47 U.S.C. § 309(j).

[211] *See* 326 U.S. § 327, 332.

[212] *Id.* The *Ashbacker* doctrine was enunciated by the United States Supreme Court in its interpretation of Section 309 of the Communications Act of 1934, as amended, 47 U.S.C. § 309.

[213] *See* Amendment of Section 73.606(b), Table of Allotments, Television Broadcast Stations, *Report and Order*, MM Docket No. 98-175, 14 FCC Rcd 11856, 11860-61 ¶ 12 (1999) (*Channel Swap Order*).

[214] *See Rainbow Broadcasting Co. v. FCC*, 949 F. 2d 405, 410 (D.C. Cir. 1991).

[215] *See Channel Swap Order*, 14 FCC Rcd at 11860-61 ¶ 12.

[216] *See* Amendment of the Commission's Rules to Permit FM Channel and Class Modifications by Application, *Report and Order*, MM Docket No. 92-159, 8 FCC Rcd 4735, 4738-39 ¶ 16 (1993). *See also Aeronautical Radio, Inc. v. FCC*, 928 F. 2d 428, 439 (D.C. Cir. 1991).

Ashbacker would apply to the 2 GHz portion of Nextel's proposal, and whether this situation represents a channel exchange or swap. If we were to decide to set aside 10 MHz of 2 GHz MSS spectrum on an exclusive basis, nationwide, for terrestrial land mobile use by Nextel or any other proponent of 800 MHz land mobile band restructuring, are the associated public interest benefits sufficient to justify giving the proponent the exclusive rights to use the 2 GHz frequencies that it seeks? Or, should other incumbent terrestrial licensees that might be required to move from their current frequencies in the 800 MHz band be eligible for this spectrum, possibly on some proportional basis, depending on their current spectrum occupancy? Moreover, would Nextel's proposal for reallocation and reassignment of 2 GHz band spectrum in exchange for surrendered 700, 800 and 900 MHz band spectrum, if adopted, constitute an "opening" of a new band under an *Ashbacker* analysis? According to the *Nextel Proposal*, Nextel's proposal can be executed without initiating the opportunity for mutually exclusive applications because precedent demonstrates that the *Ashbacker* doctrine does not prevent the Commission from "promulgat[ing] rules limiting eligibility to apply for a channel when such action promotes the public interest, convenience, and necessity."[217] We seek comment on this legal analysis.

81. Section 309(j) mandates, with certain exceptions, that the Commission grant initial licenses for mutually exclusive applications through competitive bidding.[218] Nextel states that the private radio and SMR licensees implicated in its proposal would not be applying for "initial licenses" under Section 309(j)(1) but would "merely receive licenses for replacement spectrum in exchange for the spectrum licenses they will surrender as part of the realignment plan."[219] We seek comment on Nextel's analysis and our tentative conclusion that the "channel swaps" proposed in the 700, 800 and 900 MHz bands do not implicate Section 309(j). We also seek comment on whether Nextel's proposed reallocation and assignment of 10 MHz of spectrum in the 2 GHz band for terrestrial land mobile purposes would trigger a process that implicates Section 309(j).

VII. PCIA 800 AND 900 MHZ POOL CONSOLIDATION PROPOSAL

82. In 1982, the Commission established four user-category pools in the 806 MHz to 821 MHz and 851 MHz to 866 MHz band: Public Safety, SMR, Business and Industrial/Land Transportation.[220] The Commission also provided that, eighteen months after the pool

---

[217] *Nextel Proposal* at 53; Amendment of the Commission's Rules to Permit FM Channel and Class Modifications by Application, *Report and Order*, 8 FCC Rcd 4735, ¶ 16 (1993) (*citing U.S. v. Storer Broadcasting Co.*, 351 U.S. 192(1956)); See also *Aeronautical Radio, Inc. v. FCC*, 928 F.2d 428, 439 (D.C. Cir. 1991); Amendment of the Commission's Rules Regarding Modification of FM Broadcast Licenses to Higher Class Co-channel or Adjacent Channels, *Report and Order*, 60 Rad. Reg. 2d (P&F) 114, ¶ 17 (1986).

[218] *See* 47 U.S.C. § 309(j).

[219] *Nextel Proposal* at 54.

[220] *See* Amendment of Part 90 of the Commission's Rules to Release Spectrum in the 806-821/851 -866 MHz Bands and to Adopt Rules and Regulations Which Govern Their Use. Amendment of Part 90 of the Commission's Rules to Facilitate Authorization of Wide-Area Mobile Radio Communications Systems. An Inquiry Concerning the Multiple Licensing of 800 MHz Radio Systems ('community repeaters'). Amendment of Section 90.385(c) of the Commission's Rules to Allow Transmission of Non-Voice Signals at 800 MHz, PR Docket No. 79-191, PR Docket No. 79-334, PR (continued....)

classifications had been established, "intercategory sharing" would be permitted, such that an applicant unable to locate a useable frequency in its own pool would be entitled to request a frequency in another pool, subject to Commission approval.[221] At the time, the Commission contemplated that the pool categories could be phased out in three years.[222] However, the pool categories proved to have continuing utility and remain in use today. A freeze was imposed on intercategory sharing in 1995,[223] because, after the Commission elected to license SMR stations on a wide-area geographical basis, using auctions,[224] SMR applicants filed a disproportionate number of requests for intercategory sharing. This resulted in a shortage of channels for applicants in the other pools.[225] The freeze on intercategory sharing in the 800 MHz band is still in effect. In 1986, based on experience with the pool structure in the 800 MHz band, the Commission adopted the same pool structure for the 900 MHz band land mobile spectrum.[226]

83. In its rule making petition, PCIA asks that we discontinue the separate pools for the Business and Industrial/Land Transportation services and consolidate those services into one pool.[227] In the alternative, PCIA asks that we lift the freeze on intercategory sharing.[228] PCIA alleges that business-only entities, such as airlines, have had to file time-consuming and expensive waiver requests in order to obtain frequencies outside their pool.[229] It also claims that the separate Business and Industrial/Land Transportation pools make it difficult to implement new technologies, such as Time Division Multiple Access, which require several contiguous channels.[230] PCIA points to our consolidation of radio services in the frequencies below 512

(Continued from previous page)

Docket No. 79-107, PR Docket No. 81-703, *Second Report and Order*, FCC 82-338 ¶¶ 61-65 (Aug. 16, 1982). (*Pool Order*)

[221] Intercategory sharing initially was allowed only among the three non-SMR categories; and then only by compatible users. *Id.*

[222] *See Pool Order* ¶ 66.

[223] *See* Inter-Category Sharing of Private Mobile Radio Frequencies in the 806-821/851-866 MHz Bands, DA 95-741, *Order,* 10 FCC Rcd 7350 (WTB 1995) (*Intercategory Freeze Order*).

[224] *See* Implementation of Sections 3 (n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, *Third Report and Order*, 9 FCC Rcd 7988, 8042, ¶ 94 (1994).

[225] *See Intercategory Freeze Order* 10 FCC Rcd at 7351.

[226] *See* Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems Amendment of Parts 2, 15, and 90 of the Commission's Rules and Regulations to Allocate Frequencies in the 900 MHz Reserve Band for Private Land Mobile Use Amendment of Parts 2, 22 and 25 of the Commission's Rules to Allocate Spectrum for, and to Establish Other Rules and Policies Pertaining to the Use of Radio Frequencies in a Land Mobile Satellite Service for the Provision of Various Common Carrier Services, GEN Docket No. 84-1231 RM-4812, GEN Docket No. 84-1233 RM-4829, GEN Docket No. 84-1234, *Report and Order,* 2 FCC Rcd 1825 ¶ 46 (1986).

[227] *See PCIA Petition* at 4-8.

[228] *See id.* at 8-9.

[229] *See id.* at 5.

MHz,[231] and argues that the stated rationale in that proceeding – greater spectrum efficiency – also should apply to the 800 MHz and 900 MHz private land mobile bands.[232]

84. We seek comment on whether the separate Business and Industrial/Land Transportation pools in the 800 MHz and 900 MHz PLMR bands may have outlived their utility as claimed by PCIA or whether there are reasons to maintain the *status quo*. Commenting parties should address the question of whether, if PCIA's proposal were implemented, one service would dominate the consolidated pool to the detriment of the other service. In their comments, parties may wish to address the issue of whether the safety-related communications of Industrial licensees – such as public utilities – may militate in favor of keeping the present pool structure in place, thereby to insure that sufficient numbers of channels remain available for CII communications. Parties should also address the issue of whether lifting the freeze on intercategory sharing in the 800 MHz band would be a better solution to the problems articulated by PCIA.

VIII. COMMERCIAL USE OF 900 MHZ BAND LAND MOBILE FREQUENCIES

85. In the *Balanced Budget Act* proceeding, the Commission amended its rules to permit CMRS use of PLMRS frequencies in the 800 MHz land mobile band and allowed PLMRS licensees to transfer their licenses to CMRS entities.[233] In the *BBA R&O and FNPRM* we asked comment on whether, in the interest of regulatory symmetry, we should extend the same rules to 900 MHz band land mobile spectrum.[234] Here, we ask comment on this issue in light of Nextel's proposal to accommodate displaced 800 MHz Business and Industrial/Land Transportation licensees in the 900 MHz land mobile band.[235] In particular, commenting parties should address whether allowing CMRS use of the 900 MHz land mobile band would create such a spectrum shortage in this band that the needs of displaced licensees for 900 MHz spectrum could not adequately be met.

IX. CONCLUSION

86. Concerns over domestic security are placing increasing burdens on the resources of the Country's public safety providers, including on their critical communications systems. Many of these existing systems operate in the 800 MHz land mobile band. New public safety communications systems are being constructed in this band, several of them providing state-wide

(Continued from previous page)

[230] *See id.* at 5-6.

[231] *See* Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Services and Modify the Policies That Govern Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket 92-235, *Second Memorandum Opinion and Order*, 14 FCC Rcd 8642 (1999).

[232] *See PCIA Petition* at 6.

[233] 14 FCC Rcd at 22760-22761.

[234] *Id.* at 22773-22774.

[235] In raising the CMRS use of 900 MHz PLMR spectrum in this proceeding, we hereby incorporate by reference the record in the *BBA R&O and FNPRM*.

coverage, for example, systems in Florida, Michigan, Ohio and New Hampshire. This growth in the implementation of 800 MHz public safety systems is being accompanied by growth in the number of potentially interfering 800 MHz and 900 MHz CMRS transmitters, particularly in urban areas. Documented existing interference problems taken in combination with these growth patterns underlie our tentative conclusion that, unless significant remedial action is taken immediately, increased harmful and potentially hazardous interference will be caused to 800 MHz public safety systems at a time when public safety agencies most need reliable communications capability.

87. The Commission and the public safety community have attempted to address the interference problem within the confines of the existing public safety allocation structure in the 800 MHz band. None of the remedial methods identified has proven entirely successful. Therefore, we have tentatively concluded that a restructuring of the 800 MHz public safety band may be the only long term solution to the interference problem. The challenge of restructuring this spectrum is a daunting one. As we have seen with the proposals of Nextel and NAM, there are complex policy, technical and economic issues attendant on any restructuring that will meaningfully abate potential interference. We have endeavored to identify and ventilate such issues in this *NPRM*. We seek comment on those issues and any other issues that commenting parties may have identified that must be resolved before restructuring of the 800 MHz public safety band may be accomplished. At present, there is an insufficient record on which to base any immediate relief. Therefore, we urge commenting parties to be as complete and comprehensive as possible in their filings, especially with respect to laying a factual predicate for all recommendations.

88. In the 800 MHz and 900 MHz bands, the assignment of separate channel pools for Business and Industrial/Land Transportation services has been in effect for several years. As PCIA has requested, we are reviewing the need for such separate pools and examining whether their elimination would significantly improve efficient spectrum use or pave the way for the introduction of new technology. At the same time, we are mindful that the communications of many Industrial/Land Transportation licensees affect the public welfare. Accordingly, we do not want to create an allocations environment in which insufficient channels are available for safety-related communications. Similar concerns underlie our inquiry concerning converting 900 band MHz PLMRS licenses to CMRS use. We therefore seek comment on the perceived advantages and disadvantages of PCIA's proposal to merge the Business and Industrial/Land Transportation services into a single pool; or, in the alternative, to lift the freeze on intercategory sharing; and on the issue of CMRS use of 900 MHz PLMR band frequencies.

X. PROCEDURAL MATTERS

A. Ex Parte Rules

89. Pursuant to Section 1.1206 of the Commission's ex parte rules, 47 C.F.R. § 1.1206, this rulemaking proceeding is a permit-but-disclose proceeding. Provided they are disclosed in accordance with the Commission's rules, ex parte presentations are permitted, except during the Sunshine Agenda period.

B. Filing Procedures

90. Pursuant to Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on this *Notice of Proposed Rule Making* on or before **[30 days after publication in the Federal Register]** and reply comments on or before

[60 days after publication in the Federal Register]. Comments and reply comments should be filed in WT Docket No. 02-55. All relevant and timely filings will be considered by the Commission before final action is taken in this proceeding. To file formally in this proceeding, interested parties must file an original and four copies of each comment or reply comment. Commenting parties who wish each Commissioner to receive personal copies of their submissions must file an original and nine copies of each comment and reply comment. Comments and reply comments must be directed to William F. Caton, Office of the Secretary, Federal Communications Commission, 445 12th St., S.W., Room TW- A325, Washington, D.C. 20554. Copies of all comments also should be provided to (1) the Commission's duplicating contractor, Qualex International, Portals II, 445 12th Street, SW, Room CY-B402, Washington, DC, 20554, and (2) Michael J. Wilhelm, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau, Federal Communications Commission, 445 12th Street, S.W., Washington, D.C. 20554.

91. Comments may also be filed using the Commission's Electronic Comment Filing System (ECFS).[236] Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. Parties may also submit an electronic comment by Internet e-mail. To obtain filing instructions for e-mail comments, commenting parties should send an e-mail to ecfs @fcc.gov, and should include the following words in the body of the message: "get form <your e-mail address>." A sample form and directions will be sent in reply. Or, you may obtain a copy of the ASCII Electronic Transmittal Form (FORM- ET) at <http://www.fcc.gov/e-file/email.html>.

92. Comments and reply comments will be available for public inspection during regular business hours at the FCC Reference Information Center, Room CY-A257, at the Federal Communications Commission, 445 12th St., S.W., Washington, D.C. 20554. Copies of comments and reply comments are available through the Commission's duplicating contractor: Qualex International, Portals II, 445 12th Street, SW, Room CY-B402, Washington, DC, 20554, telephone 202-863-2893, facsimile 202-863-2898, or via e-mail at qualexint@aol.com. This *Notice of Proposed Rulemaking* can be found on the Wireless Telecommunications Bureau home page at <http://wireless.fcc.gov>.

C. Regulatory Flexibility Act

93. Pursuant to the Regulatory Flexibility Act, *see* 5 U.S.C. § 603, the Initial Regulatory Flexibility Act Analysis is set forth at Appendix 2. We request written public comments on the Initial Regulatory Flexibility Analysis. These comments must be filed in accordance with the same filing deadlines as the comments on the rest of the *Notice of Proposed Rule Making*, and must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. The Commission's Consumer Information Bureau, Reference Information Center, shall send a copy of this *Notice of Proposed Rule Making*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the Regulatory Flexibility Act.

[236] *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24121 (1998).

94. The proposals contained herein have been analyzed with respect to the Paperwork Reduction Act of 1980 and found to contain no new or modified form, information collection and/or record keeping, labeling, disclosure, or record retention requirements; and will not increase or decrease burden hours imposed on the public.

D. Ordering Clauses

95. Authority for the issuance of this *Notice of Proposed Rule Making* is contained in Sections 4(i), 303(f) and (r), 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(f) and (r), 332.

96. **IT IS ORDERED** that the Commission's Consumer Information Bureau, Reference Information Center, **SHALL SEND** a copy of this Notice of Proposed Rule Making, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

E. Further Information

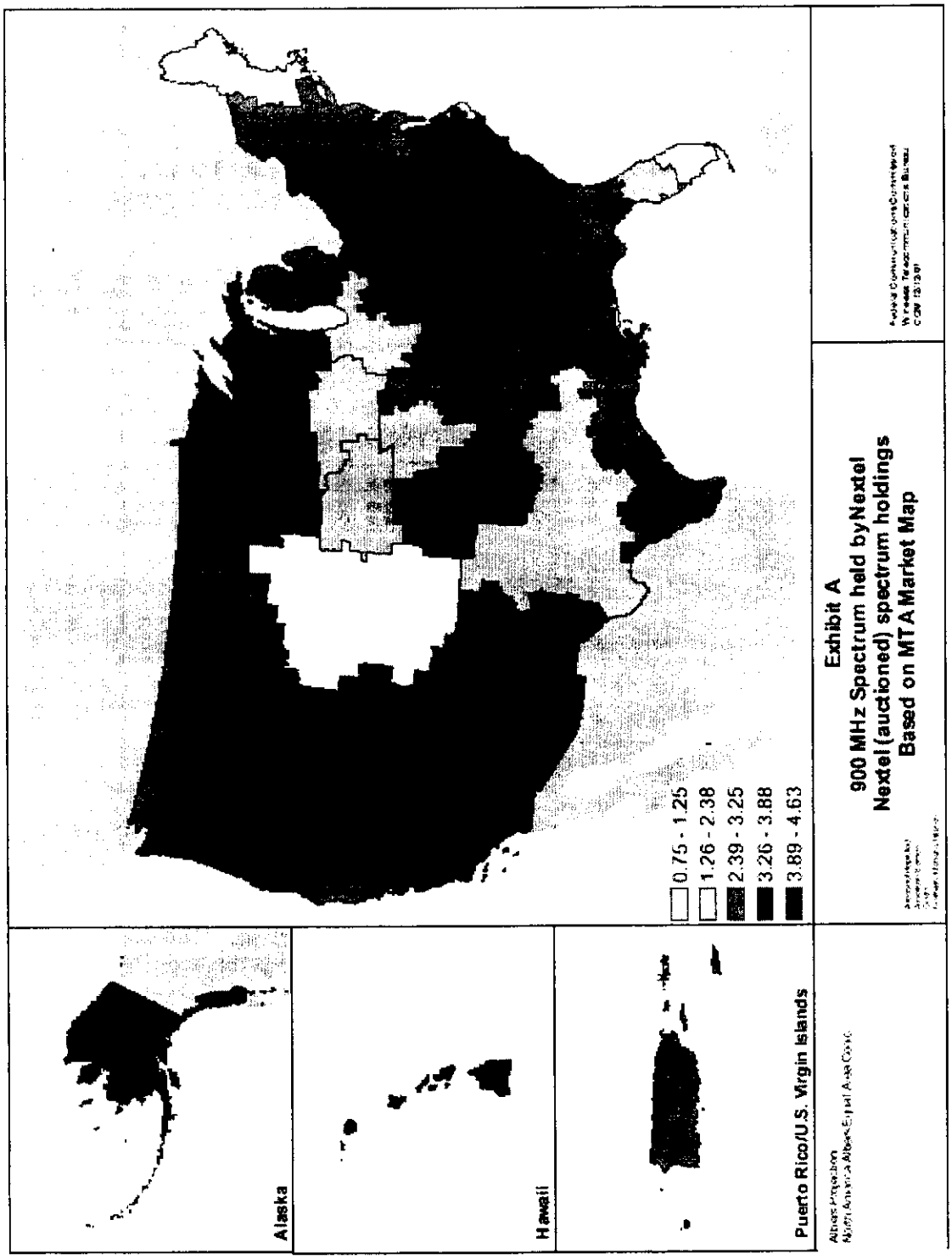
97. For further information, contact Michael J. Wilhelm, Wireless Telecommunications Bureau, Public Safety and Private Wireless Division, at (202) 418-0680 (voice), (202) 418-1169 (TTY), mwilhelm@fcc.gov (email).

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

APPENDIX ONE

Nextel 700 MHz and 900 MHz Spectrum Holdings Exhibits A, B and C


Alaska
Hawaii
Puerto Rico/U.S. Virgin Islands
0.75 - 1.25
1.26 - 2.38
2.39 - 3.25
3.26 - 3.88
3.89 - 4.63
Exhibit A
900 MHz Spectrum held by Nextel
Nextel (auctioned) spectrum holdings
Based on MTA Market Map

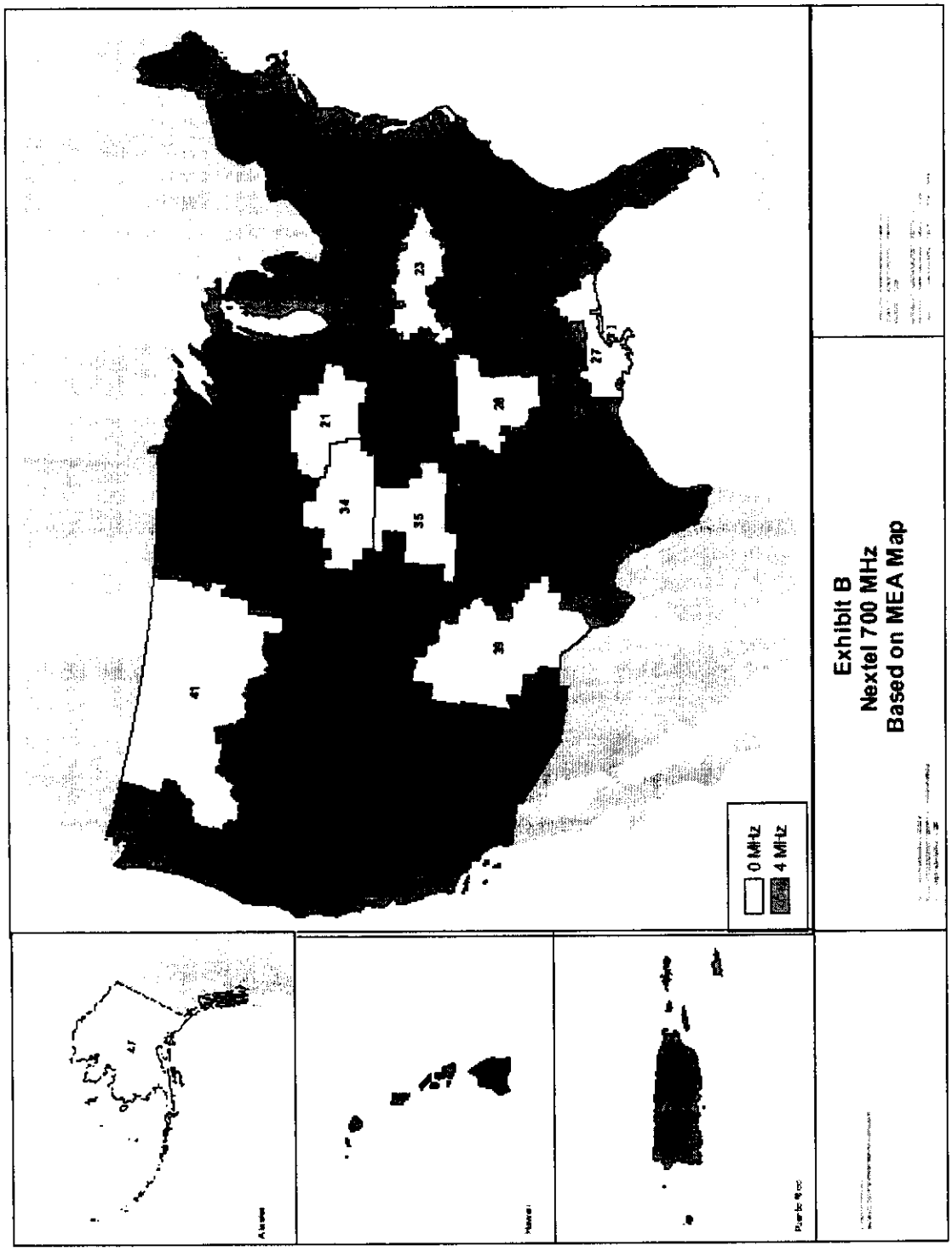
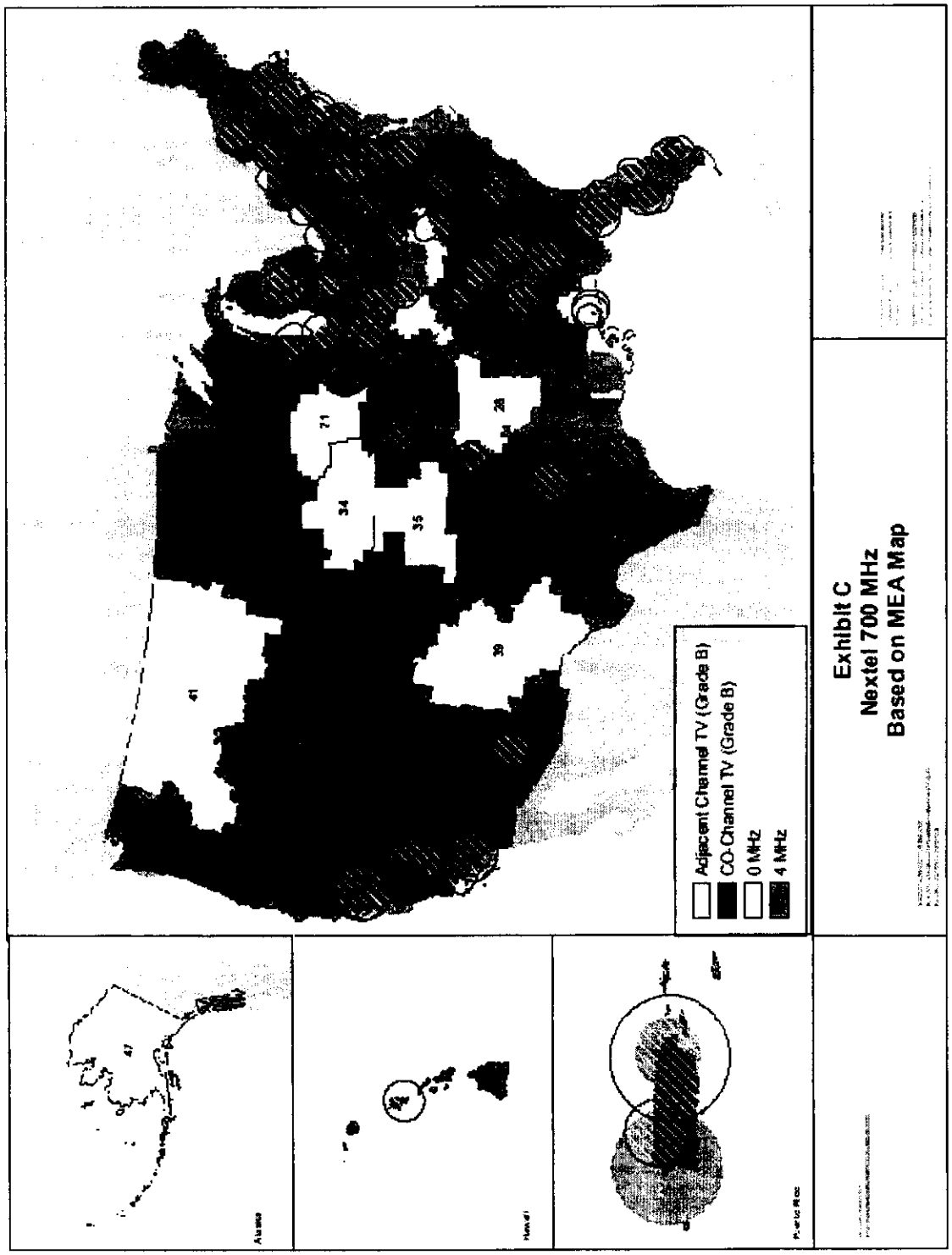


Exhibit B
Nextel 700 MHz
Based on MEA Map
0 MHz
4 MHz
23
27
21
28
34
35
41
39


41
71
34
35
28
39
Adjacent Channel TV (Grade B)
CO-Channel TV (Grade B)
0 MHz
4 MHz
Exhibit C
Nextel 700 MHz
Based on MEA Map

APPENDIX TWO

Initial Regulatory Flexibility Analysis

INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act (RFA),[237] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in this Notice of Proposed Rulemaking (Notice). Written public comments are requested regarding this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Notice provided in paragraph 90 of the item. The Commission will send a copy of the Notice, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[238] In addition, the Notice and IRFA (or summaries thereof) will be published in the Federal Register.[239]

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

In the Notice, we consider proposals submitted by Nextel, Inc. (Nextel) and the National Association of Manufacturers and MRFAC, Inc. (NAM). Nextel proposes to: (1) expand the 800 MHz public safety spectrum by consolidating it into 10 MHz blocks of contiguous channels at 806-816 MHz and 851-861 MHz; (2) relocate National Public Safety Planning Advisory Committee (NPSPAC) licensees from their current 821-824 MHz and 866-869 MHz channels into the above blocks of contiguous public safety spectrum; (3) relocate Business, Industrial and Land Transportation (I/LT), and Specialized Mobile Radio (SMR) licensees from their current channels in the 809.75-816 MHz and 854.75-861 MHz band to channels in the 896-901 MHz and 935-940 MHz band and in the 762-764 MHz and 792-794 MHz Guard Band Block B; (4) establish an allocation for "low site, low power digital SMR" licensees in the 816-824 MHz and 861-869 MHz band; and (5) establish two 5 MHz blocks for "Nextel SMR" in the 2 GHz Mobile Satellite Service (MSS) band. NAM proposes that the 800 MHz land mobile band be restructured so that there is a public safety segment from 806-811 MHz and 851-856 MHz; an SMR, Business, and Industrial and Land Transportation segment from 811-816 MHz and 856-861 MHz; and a Cellular Architecture Digital SMR segment at 816-824 MHz and 861-869 MHz. We will also give consideration to other reallocation proposals. We have tentatively concluded that spectrum reallocation would be in the public interest because it would solve current and future harmful interference to 800 MHz public safety communications.

We also consider a proposal that the 800 MHz and 900 MHz Business and Industrial/Land Transportation (I/LT) pools be consolidated into a single pool accessible by both services. In the alternative, we propose to lift the freeze on intercategory sharing that prevents the use of I/LT channels by Business entities.

---

[237] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 *et seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

[238] *See* 5 U.S.C. § 603(a).

[239] *See id.*

B. Legal Basis

Authority for issuance of this item is contained in Sections 4(i), and 303(f) and (r) and Section 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(f) and (r), 332.

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

The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by proposed rules, if adopted.[240] The RFA defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small business concern" under Section 3 of the Small Business Act, unless the Commission has developed one or more definitions that are appropriate for its activities.[241] Under the Small Business Act, a small business concern is one that: (1) is independently owned and operated, (2) is not dominant in its field of operation, and (3) satisfies any additional criteria established by the Small Business Administration.[242]

A small organization is generally any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.[243] Nationwide, as of 1992, there were approximately 275,801 small organizations.[244] A "small governmental jurisdiction" generally means "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000."[245] As of 1992, there were approximately 85,006 such jurisdictions in the United States.[246] This number included 38,978 counties, cities, and towns; of these, 37,566, or ninety-six percent, have populations of fewer than 50,000.[247] The Census Bureau estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that that 81,600 (ninety-one percent) are small entities. Below, we further describe and estimate the number of small entities - - applicants, licensees, and radio equipment manufacturers - - that may be affected by the proposals, if adopted, in this Notice.

---

[240] 5 U.S.C. § 603(b)(3).

[241] *Id.* § 601(3).

[242] 15 U.S.C. § 632.

[243] *Id.* § 601(4).

[244] U.S. Department of Commerce, Bureau of the Census, *1992 Economic Census*, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

[245] 5 U.S.C. § 601(5).

[246] U.S. Department of Commerce, Bureau of the Census, *1992 Census of Governments*.

[247] *Id.*

Public Safety Radio Licensees. There are currently 1320 public safety and NSPAC licensees who would be required to relocate their station facilities, with some reimbursement, if the NAM or Nextel proposals described in the *Notice of Proposed Rulemaking* were adopted. The NSPAC licensees operate on six (6) MHz of spectrum from 821-824 and 866-869 MHz known as the NSPAC channels.[248] In this band the public safety channels are not interleaved with channels of other services; however, the band abuts the upper 200 SMR channels ending at 821/866 MHz and the cellular band beginning at 824/869 MHz. The other public safety licensees - - operating on channels interleaved with channels of other services - - affected by this proceeding include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services operating in the 800 MHz band.[249] Non-Federal government entities, as well as private businesses, are licensees for these services. As indicated above, all governmental entities with populations of less than 50,000 fall within the definition of a small entity.[250]

Neither the Commission nor the SBA has developed a definition of small businesses directed specifically toward public safety licensees. Therefore, the applicable definition of small business is the definition under the SBA rules applicable to radiotelephone (wireless) companies. This provides that a small business is a radiotelephone company employing no more than 1,500 persons.[251] According to the Bureau of the Census, only twelve radiotelephone firms from a total of 1,178 such firms that operated during 1992 had 1,000 or more employees.[252] Therefore, even if all twelve of these firms were public safety licensees, nearly all would be small businesses under the SBA's definition, if independently owned and operated.

Business, I/LT, and SMR licensees. At present, there are 2,100 Business and I/LT licensees who would be required to relocate their station facilities, without reimbursement, if the Nextel proposal described in the *Notice* were adopted. Also, there are currently 1,100 SMR licensees who would be required to relocate their station facilities, without reimbursement, if the Nextel proposal were implemented. Significantly fewer such licensees would have to be relocated under the NAM proposal. Neither the Commission nor the SBA has developed a definition of small businesses directed specifically toward these licensees. Therefore, the applicable definition of small business is the definition under the SBA rules applicable to radiotelephone (wireless) companies. This provides that a small business is a radiotelephone company employing no more than 1,500 persons.[253] According to the Bureau of the Census, only twelve radiotelephone firms from a total of 1,178 such firms that operated during 1992 had 1,000

[248] 47 C.F.R. § 90.16.

[249] *See* subparts A and B of Part 90 of the Commission's Rules, 47 C.F.R. §§ 90.1-90.22.

[250] 5 U.S.C. § 601(5).

[251] 13 C.F.R. § 121.201, NAICS code 513321, 513322, 513330.

[252] U.S. Department of Commerce, Bureau of the Census, Economics and Statistics Administration, *1992 Census of Transportation, Communications and Utilities, Establishment and Firm Size, Series UC92-S-1*, at Table 5, NAICS code 513321, 513322, 51333.

[253] 13 C.F.R. § 121.201, NAICS code 513321, 513322, 51333.

or more employees.[254] Therefore, even if all twelve of these firms were business, ILT, SMR, or MSS licensees, nearly all would be small businesses under the SBA's definition, if independently owned and operated.

Communications Equipment Manufacturers. This proposal will provide marketing opportunities for radio manufacturers, some of which may be small businesses. According to the Small Business Administration's regulations, a radio and television broadcasting and communications equipment manufacturer must have 750 or fewer employees in order to qualify as a small business concern.[255] Census Bureau data indicate that there are 858 U.S. firms that manufacture radio and television broadcasting and communications equipment, and that 778 of these firms have fewer than 750 employees and, therefore, would be classified as small entities.[256] We do not have information that indicates how many radio equipment manufacturers who would be interested in manufacturing the new radio equipment are among these 778 small firms. Motorola and M/A COM Private Radio Systems, Inc., however, are major, nationwide radio equipment manufacturers, and thus, would not qualify as small businesses.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

The *Notice of Proposed Rulemaking* does not propose a rule that will entail additional reporting, recordkeeping, and/or third-party consultation or other compliance efforts.

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

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities. 5 U.S.C. §603.

As an alternative to relocating Business, I/LT, and SMR systems, we will consider: (a) allowing the licensees of these systems to remain on the public safety channels, on a secondary basis, after the realignment plan is implemented, as proposed by Nextel; or (b) allowing Business, I/LT and SMR systems to remain in the 800 MHz band as proposed by NAM. We will also consider such alternatives as may be recommended in comments to the *Notice*. We will also evaluate whether the 700 MHz public safety allocation, though currently encumbered with television stations, can satisfactorily meet public safety's spectrum needs.

---

[254] U.S. Department of Commerce, Bureau of the Census, Economics and Statistics Administration, *1992 Census of Transportation, Communications and Utilities, Establishment and Firm Size, Series UC92-S-1*, at Table 5, NAICS code 513321, 513322, 51333.

[255] 13 C.F.R. § 121.201, NAICS code 334220.

[256] U.S. Department of Commerce, Bureau of the Census, Economics and Statistics Administration, *1992 Census of Transportation, Communications and Utilities, Establishment and Firm Size, Series UC92-S-1*, at Table 5, NAICS code 33422.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

None

SEPARATE STATEMENT OF COMMISSIONER KATHLEEN ABERNATHY

In re: Improving Public Safety Communications in the 800 MHz; Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels.

I welcome today's decision to initiate a rulemaking to examine the difficult sharing issues presented in the 800 MHz band. There are two known facts here: (1) interference affecting public safety in this band is a problem and it is getting worse; and (2) our current processes are not sufficient to resolve the problems. Long ago, the Commission crafted a band plan at 800 MHz that interleaved public safety wireless licensees with private and commercial wireless operations. The Commission also added adjacent cellular operations. Although adequate at the time, that band plan did not anticipate changes in SMR and cellular technology that greatly increased the potential for interference from those services. Consequently, public safety operations are at times jeopardized by interference, particularly when operating in close proximity to commercial base station cell sites. Nonetheless, both licensees are operating within the confines of our rules. For almost two years, the Commission staff has been diligently working with the public safety and commercial wireless communities to come up with solutions to the 800 MHz interference problem. In addition, APCO has launched its Project 39 initiative to explore possible solutions. Although these collaborative efforts produced a "Best Practices Guide" and other progress, these efforts alone have not resolved the systemic interference.

Public safety licensees simply must be able to operate free from harmful interference. Nextel deserves significant credit for coming forward with a proposal to address this dilemma. Nextel's proposal is a welcome beginning of a dialog on how best to move us from where we are – to where we need to be. Indeed, absent Nextel's initiative, it is not clear that today's NPRM would have happened. Subsequent to Nextel's initiative, other parties have offered alternative proposals and I hope and fully expect additional ideas will be generated in response to this Notice. I look forward to a vigorous and informed debate.

In evaluating various proposals, a few key considerations are likely to guide my analysis. First, the plan we adopt must aggressively attack the public safety interference issues. Second, our approach should strive to minimize costs. I am very reluctant to force parties to move at their own expense unless there is some inherent benefit in the new assignment. Third, we should attempt to minimize the disruption to other bands, to the extent feasible. Fourth, if we consolidate public safety into a contiguous band and there is a demonstrated need in the record, we should not pass up an opportunity to identify additional interoperability channels for public safety.

There has already been significant public attention focused on these issues. I hope that this public attention will translate into a full and constructive record on how to proceed.

STATEMENT OF COMMISSIONER
MICHAEL J. COPPS

RE: Improving Public Safety Communications in the 800 MHz Band; Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels.

I strongly support finding a way to reduce interference to public safety users in the 800 MHz band. We are all paying far more attention to public safety this year, and rightfully so. Here we have already assigned spectrum to our critical public safety users. The spectrum is saving lives in the hands of policemen, firemen, and public safety workers across the country. Now we also must take the next step and make sure that we allow the public safety community to rely on using the 800 MHz spectrum with an acceptable amount of interference. I look forward to commenters helping us discover the right path.

I'm also glad that we're asking the question of how the Commission is progressing in meeting public safety spectrum needs more generally. Promoting public safety is one of the primary duties of the Commission. In order to do our job well we need to know how much spectrum public safety needs to protect our citizens. We have, in addition to the 800 MHz band, acted in the unquestionably complicated 700 MHz band and recently in the 4.9 GHz band. Is this the right amount of spectrum? I hope that commenters will help us with this inquiry as well.

SEPARATE STATEMENT OF COMMISSIONER KEVIN J. MARTIN

In re: Improving Public Safety Communications in the 800 MHz Band.

Public safety operations are critical to the welfare of our society. It is imperative that the communications systems supporting the nation's emergency response providers, who are responsible for the protection of our lives and our property, are interference-free and readily available when they are needed.

The public safety community has expressed concern that their communications systems in the 800 MHz band are being impacted by interference from other spectrum users. These problems are partially related to the manner in which the Commission has regulated this band. They are also related to accelerated growth of the varied systems making use of this band.

While the root causes of the problems are complicated, our goal is very clear - we must remedy this situation. I am pleased to support this item, which addresses the interference problems in that band and takes an important step toward finding a resolution. Equally important, this item will generate a fresh record regarding the amount of spectrum required by the public safety community in carrying out their important missions.

I am optimistic that this item will generate a range of creative and effective options for improving the spectrum environment in that band. I thank Nextel, the National Association of Manufacturers (NAM), and others who have already taken the initiative to offer such options for our consideration. I am also hopeful that this Commission will find a remedy that will not result in unnecessary disruption to the incumbent licensees. I look forward to working closely with the public safety community, Nextel, NAM, and other impacted spectrum users in better understanding and resolving the issues implicated in this proceeding.