

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

To: The Commission

REPLY COMMENTS OF CINERGY CORPORATION

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EXECUTIVE SUMMARY

Cinergy Corporation, a multi-state gas and electric utility licensed in the 800 MHz band, notes that the record contains insufficient evidence to justify the retuning or realignment of the 800 MHz band. Commenters, including Public Safety licensees and organizations, overwhelmingly agree with Cinergy that the FCC should conduct additional research into the cause and extent of the interference problem.

In addition, Cinergy believes that the FCC should conduct a study, and initiate a separate proceeding, to identify current and future Public Safety spectrum requirements. Although some commenters rely on outdated studies or non-representative samples to bolster their claims for additional Public Safety spectrum, the FCC should follow its standard process of conducting a study, initiating a proceeding, and requesting public comment to resolve the complex issues associated with the allocation of Public Safety spectrum.

The FCC should also investigate whether the interfering licensee complies with the existing rules on interference mitigation before imposing a costly and disruptive rebanding plan. While Nextel boasted that its system operates in compliance with the applicable FCC rules, the record does not contain any evidence justifying such an assertion and does not indicate whether Nextel has complied with the FCC's interference mitigation rules requiring it to cooperate with its victims or to implement FCC-recommended technical restrictions. Thus, the FCC should conduct additional research and acquire a thorough understanding of the interference problem in order to craft a solution that resolves the problems in an efficient and effective manner.

While investigating these outstanding issues, Cinergy recommends that the FCC implement a market-based solution featuring technical measures. While the record shows that rebanding will not completely alleviate interference in the 800 MHz band, it does indicate that technical solutions have successfully resolved interference in the past. Because of the demonstrated success of technical solutions, Cinergy urges the FCC to enable the market to correct the problem. A market-based approach would also provide licensees with the flexibility to negotiate the most appropriate solution for their individual circumstances. If the FCC were to adopt rules facilitating a market-based solution, this approach would even prevent future occurrences of interference.

If the FCC decides that a rebanding is necessary to resolve interference, however, Cinergy recommends the adoption of the 700 MHz plan. Under the 700 MHz plan, the FCC would encourage the negotiated relocation of Public Safety licensees to the unauctioned commercial spectrum in the upper 700 MHz band. The FCC would then auction the former 800 MHz NPSPAC channels and use the proceeds to pay for the Public Safety relocation. The 700 MHz plan would not only alleviate interference to Public Safety licensees in the 700 MHz and 800 MHz bands, it would also provide additional spectrum for Public Safety. While Congress and the FCC have demonstrated a willingness to adopt measures to implement a 700 MHz alternative plan, Cinergy also notes that these legislative revisions may not be necessary.

The market-based approach and the 700 MHz plan identified in these comments do not suffer from the myriad of problems inherent to most other rebanding plans. If the FCC decides to adopt a mandatory relocation based on another proposal, however, it must ensure that these problems do not exist by providing comparable and adequate replacement

spectrum, an orderly and predictable relocation process, and growth spectrum for Business and I/LT licensees. In addition, because the existing rebanding plans would impose substantial monetary costs and delays, the FCC should provide a sufficient funding mechanism. The FCC should also decline to relegate Business and I/LT licensees to secondary status because of the devastating impact on their critical communications.

In addition, because of the diversity among the plans already presented by the commenters, and the lack of sufficient detail for licensees to understand their true ramifications, the FCC should only consider rebanding after issuing a Further Notice of Proposed Rulemaking on a plan that would best minimize interference with the least disruption to incumbents.

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Cinergy Corporation ("Cinergy"), through its undersigned counsel, submits these Reply Comments on the *Notice of Proposed Rule Making* in the above-captioned matter pursuant to Section 1.415 of the Federal Communications Commission's ("Commission" or "FCC") rules.¹ In this proceeding, the FCC requested comment on methods by which it could mitigate harmful interference to 800 MHz Public Safety systems while limiting disruption to incumbent licensees.

I. INTRODUCTION

In its Comments, Cinergy recommended that the FCC permit licensees to resolve interference on a case-by-case basis through a market-based approach using technical solutions.

¹ In re 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*, 17 F.C.C. Rcd. 4873 (2002) [hereinafter *NPRM*]. The *NPRM* was published in the Federal Register on April 5, 2002. 67 Fed. Reg. 16351 (Apr. 5, 2002). The Wireless Telecommunications Bureau subsequently granted an extension of time for filing reply comments. In re Improving Public Safety Communications in the 800 MHz Band; Consolidating

Under this approach, the FCC would establish rules to promote the resolution of Public Safety interference through negotiation and arbitration, with firm timelines for ensuring the prompt elimination of interference. Many commenters agree that either technical or market-based solutions are the most efficient and effective solution to the interference problems in the 800 MHz band.

II. THE RECORD DOES NOT CONTAIN SUFFICIENT EVIDENCE ON THE SOURCE, SCOPE, AND RESOLUTION OF THE PUBLIC SAFETY INTERFERENCE PROBLEM

In the *NRPM*, the FCC provided a preliminary discussion of the sources of harmful interference to Public Safety licensees. Although the FCC briefly cited the efforts of the Enforcement Bureau to pinpoint interference, it relied almost exclusively on the unconfirmed findings reported in the *Best Practices Guide* and APCO's *Project 39 Interim Report*.² Several commenters, including Cinergy, noted this shortcoming and recommended that the FCC independently research the source and extent of Public Safety interference. A thorough investigation of these issues would prevent the adoption of an extreme solution based on limited information and would ensure that the chosen solution eliminates interference on a long-term basis.

A. The Extent of the Public Safety Interference Problem Remains Unknown

The comments filed in response to the *NPRM* failed to provide an overarching view of the Public Safety interference problem on a nationwide scale. While a few commenters

the 800 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket 02-55, 17 F.C.C. Rcd. 8898 (2002).

² *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 11-17.

described concrete examples resulting from their own experiences with interference,³ the record lacks any "quantified data concerning the number of interference complaints."⁴ With the sparse documentation of Public Safety interference in the comments, the primary evidence of the problem remains the *Project 39 Interim Report* and its supplements.⁵ Unfortunately, the *Interim Report* provides incomplete information concerning the problem and offers only a starting point for future analysis of the interference in the 800 MHz band.

1. The *Project 39 Interim Report* and Its Supplements Failed to Elucidate the Nature or Extent of the Interference Problem in the 800 MHz Band

Although the FCC relied on the *Project 39 Interim Report* to release an *NPRM* on the Public Safety interference problem, this *Interim Report* does not represent a thorough study or indicate the existence of a widespread problem. The progenitor of the plan, APCO, admits that the *Project 39 Interim Report* is merely a sample of the problem.⁶ While APCO asserts that other occurrences of interference exist, it did not offer any technical analysis or other empirical evidence to support this proposition. To explain the absence of reported incidents of interference, APCO states that "Public Safety agencies cannot simply cease operations and

³ *E.g.*, Comments of Department of Information Technology Fairfax County, Virginia 6 ¶ 21 (May 6, 2002) [hereinafter *Fairfax County Comments*]; Comments of State of Florida 7 ¶ 27 (May 6, 2002) [hereinafter *Florida Comments*]; Comments of City of Portland 5 (May 6, 2002) [hereinafter *Portland Comments*]; Comments of Utah Communications Agency Network 3 ¶ 9 (May 6, 2002) [hereinafter *UCAN Comments*].

⁴ Comments of Kenwood Communications Corporation 3 (May 6, 2002) [hereinafter *Kenwood Comments*].

⁵ APCO, Project 39: Interference to Public Safety 800 MHz Radio Systems, *Interim Report to the FCC*, Dec. 24, 2001, available at http://www.apco911.org/afc/project_39/interim_report.pdf [hereinafter *Project 39 Interim Report*].

⁶ Comments of Association of Public-Safety Communications Officials-International, Inc., National Association of Counties, *et al.* 9 (May 6, 2002) [hereinafter *APCO Comments*].

devote scarce resources to the difficult technical task of finding and eliminating interference."⁷

While this explanation could account for Public Safety agencies not resolving interference on their own, these agencies only have to fill out a questionnaire to report the occurrence of interference for the purposes of the *Project 39 Interim Report*, a task which is not overly burdensome. Thus, the absence of more reported interference belies the assertions of a widespread interference problem or demonstrates the incomplete nature of the *Project 39 Interim Report*.

Nevertheless, the lack of funding cited by APCO could contribute to the insufficiency of the *Project 39 Interim Report* and its supplements. Because the Project 39 task force lacked adequate financial backing, the *Interim Report* offers only a snapshot of interference at a given time. By failing to track the development or resolution of identified problems, the *Project 39 Interim Report* is not adequate to evaluate the seriousness of the problem.

The *Project 39 Interim Report* and supplements also neglect to provide any information on harmful interference suffered by non-Public Safety licensees in the 800 MHz band. UTC notes that interference from low-site digital licensees is not unique to Public Safety entities, but has also adversely affected Business, I/LT, and SMR licensees.⁸ Information about this licensee population is conspicuously absent from the industry reports. To fill the gaps in the *Project 39 Interim Report* and its supplements, the FCC should conduct additional studies to determine the precise extent of this problem before taking any costly and disruptive action. In the interim, the FCC should encourage interference resolution by adopting technical or market-based solutions.

⁷ *Id.*

⁸ *E.g.*, Comments of UTC Appendix A (May 6, 2002) [hereinafter *UTC Comments*]; Comments of Consumers Energy 6 (May 6, 2002) [hereinafter *Consumers Comments*]; Comments of National Association of Manufacturers and MRFAC, Inc. 7 (May 6, 2002) [hereinafter *NAM/MRFAC Comments*].

2. The Absence of Quantifiable Evidence Leads Some Commenters to Doubt the Authenticity of the Public Safety Interference Problem

The undeveloped state of the record has also led several commenters to question the severity of the Public Safety interference problem. Commenters complain that the existing interference study is not independent from those entities that would use these allegations of interference as leverage to secure additional spectrum. To provide legitimacy to the interference reports, the American Petroleum Institute recommends that the FCC "conduct independent technical studies of its own."⁹ A Public Safety licensee, the City of Baltimore, also suggests that "it may be prudent to establish a public safety/commercial industry investigative committee to develop a clearer record before the Commission rushes to impose costly and disruptive remedies that may go beyond what is necessary."¹⁰ Thus, commenters stress the need for independent study of the source and extent of the interference problem either by the FCC or by a representative committee.

Cinergy agrees with the observation of some commenters that this proceeding is primarily an effort by certain parties to corral more spectrum or a subterfuge by Nextel to detract attention from its own interference problem. For example, while the City of Baltimore has experienced interference from Nextel on several occasions, it believes that the Public Safety interference problem is "overstated by the commercial parties who see an opportunity to gain

⁹ Comments of American Petroleum Institute 7 (May 6, 2002) [hereinafter *API Comments*]; see, e.g., Comments of Dallas Area Rapid Transit Authority 3 (May 6, 2002) [hereinafter *DART Comments*] (requesting a thorough study "independent of telecommunication industry representatives").

¹⁰ Comments of City of Baltimore 6 (May 6, 2002) [hereinafter *Baltimore City Comments*]; see, e.g., Comments of International Association of Fire Chiefs, Inc. and International Municipal Signal Association 9 (May 6, 2002) [hereinafter *IAFC/IMSA Comments*] ("urg[ing] the Commission to direct its Laboratory to conduct empirical research).

valuable blocks of spectrum."¹¹ Preferred Communications Systems also observes that in two years of studying the problem, the Project 39 task force has only documented 67 incidents of interference, a number which it believes "is [] rather statistically small . . . considering there are 1,320 Public Safety systems operating within the 800 MHz band"¹²

Thus, the record lacks sufficient information on the extent of the interference problem in the 800 MHz band. Either commenters have not adequately detailed the problem or the problem is not as widespread as the Project 39 task force originally anticipated. Regardless of which of these scenarios is true, the FCC should not undertake a multi-billion dollar solution without a substantial and independent body of knowledge, and it should tailor its response to address the limited nature of this problem.

B. The Record Does Not Provide Sufficient Information to Justify Rebanding

In addition to the absence of sufficient evidence about the extent of the interference problem from the industry reports, the record generated in response to the *NPRM* also does not contain enough detail to support the band-wide retuning or relocation of incumbent licensees. While commenters generally acknowledge that interference afflicts an unknown number of incumbent licensees, and express a desire to resolve this problem, they consistently ask the FCC "to consider, after further study, other alternatives that will more efficiently and effectively address the causes of public safety signal interference."¹³

¹¹ *Baltimore City Comments* at 6.

¹² Comments of Preferred Communications Systems 7 (May 6, 2002).

¹³ *E.g.*, Comments of Kankakee Valley Rural Electric Membership Corporation 5 (May 6, 2002) [hereinafter *Kankakee Comments*].

1. The FCC Should Undertake a Thorough Study before Imposing Substantial Costs and Disruption through Rebanding

Commenters urge the FCC to research the interference issue thoroughly to ensure that any resulting interference mitigation is worth the massive cost and disruption that would beset incumbent licensees. As it currently stands, "the record is devoid of data [to suggest that rebanding] will, in fact, provide genuine interference relief . . . sufficient to warrant the extraordinary costs and disruption to public safety users and others" ¹⁴ The American Petroleum Institute warns the FCC that an unsubstantiated rebanding could cause cost and disruption "without even making a substantial dent in the interference problem." ¹⁵ Thus, these commenters agree with Cinergy that the FCC should undertake "a thorough study of all costs involved in relocating users[] and thorough engineering studies of all possible alternatives . . . before a final plan is implemented." ¹⁶

The FCC currently has a proceeding underway to address the long-term issues raised by this *NPRM*. Specifically, the Spectrum Policy Task Force recently issued a *Public Notice* on a number of questions that are directly relevant to the 800 MHz Interference docket, including market-oriented allocations, interference protection, and Public Safety communications. ¹⁷ Thus, the FCC should limit Docket 02-55 to addressing the immediate Public Safety interference problem and should defer the broader policy questions involving long-term interference reduction until the Spectrum Policy Task Force compiles a more detailed record.

¹⁴ Comments of American Mobile Telecom Association, Inc. 6 (May 6, 2002) [hereinafter *AMTA Comments*].

¹⁵ *API Comments* at 7.

¹⁶ *DART Comments* at 3; see, e.g., Comments of American Public Transit Authority 2 (May 6, 2002) [hereinafter *APTA Comments*].

¹⁷ Spectrum Policy Task Force Seeks Public Comment on Issues Related to Commission's Spectrum Policies; ET Docket No. 02-135, *Public Notice*, 17 F.C.C. Rcd. 10560 (2002).

2. Public Safety Commenters Request Additional Research on the Retuning and Relocation Proposals

Even the Public Safety community asks the FCC not to make a hasty rebanding decision based on the limited information contained in this record. The State of Florida asserts that "[i]n view of the enormous cost, complexity, and time required to accomplish band restructuring, . . . the Commission [should] thoroughly investigate all possible non-restructuring options for mitigating the problem."¹⁸ The IAFC and IMSA, which generally support rebanding, state that the public interest would not benefit from a "band restructuring proposal which will cost well in excess of One Billion Dollars and entail substantial disruption to communications system operation, however implemented, without the assurance that the plan adopted in fact constitutes a solution to the interference problem."¹⁹

In addition to the reluctance to impose unnecessary costs and disruption, many Public Safety licensees have resolved their interference problems through technical measures without the need for retuning or relocation. As discussed in greater detail below in Section V, the FCC should analyze these successful solutions prior to implementing a rebanding.

Thus, despite the commenters' widely divergent views on the necessity of rebanding, they agree that the FCC should conduct empirical research to pinpoint the sources of Public Safety interference and develop a solution targeted to these specific causes. The FCC should not undertake any costly or disruptive action without a more complete understanding of the Public Safety interference problem.

¹⁸ *Florida Comments* at 1 ¶ 2; *see, e.g., Baltimore City Comments* at 6 ("It may be prudent to establish a public safety/commercial industry investigative committee to develop a clearer record before the Commission rushes to impose costly and disruptive remedies that may go beyond what is necessary.").

¹⁹ *IAFC/IMSA Comments* at 4.

3. Additional Information Will Enable the FCC to Implement a Long-Term Solution

The FCC should also gather additional information on the interference problem to enable it to craft a long-term solution. Although a few commenters suggest long-term solutions to the Public Safety interference problem, many commenters believe that "a thorough analysis of the major causes of the interference, and their relative contribution to the problem [is necessary] . . . to address the long term solution to the problem and to find a solution that is permanent."²⁰ Further analysis would allow the FCC to rule out alternatives that would impose unwarranted costs or disruption or that would not solve the interference problem.

4. The Record Does Not Indicate that Additional Public Safety Spectrum Will Resolve the 800 MHz Interference Problem

Commenters fail to provide any basis for the proposition that additional Public Safety spectrum will resolve the interference problem. Although many commenters support both interference resolution and additional Public Safety spectrum, none denote a logical correlation between the two. As discussed in greater detail in Section V, additional spectrum does not necessarily reduce interference, especially in the 800 MHz band, because the source of the interference may remain following the allocation.

III. THE FCC SHOULD INITIATE A SEPARATE PROCEEDING TO DETERMINE WHETHER IT SHOULD ALLOCATE ADDITIONAL SPECTRUM TO PUBLIC SAFETY

Although the record does not show that an additional allocation of Public Safety spectrum would resolve the 800 MHz interference problem, the FCC should initiate a separate proceeding if it decides to address the spectrum needs of Public Safety. Cinergy, as well as

several other commenters, believe that the current "proceeding should not be about the location of additional spectrum for public safety, as opposed to the correction of interference to public safety systems."²¹ Although most Public Safety commenters express a general desire for additional spectrum,²² the FCC has barely started the intricate process necessary to allocate spectrum. Because of the complexity of the issues involved, a spectrum allocation would inevitably require the FCC to conduct an independent investigation and request several rounds of comment, thus delaying the resolution of interference indefinitely.

A. The Allocation of Additional Public Safety Spectrum Raises Numerous Complex Issues

Before allocating spectrum to Public Safety services, the FCC must address several complicated issues. These issues fall into four general categories: (1) telecommunications requirements;²³ (2) spectrum availability and suitability;²⁴ (3) technical and economic

²⁰ *Kenwood Comments* at 4; *see, e.g., Kankakee Comments* at 5 (requesting additional study to identify "alternatives that will more efficiently and effectively address the causes of public safety signal interference").

²¹ Comments of Private Wireless Coalition 8 (May 6, 2002) [hereinafter *Private Wireless Coalition Comments*]; *see, e.g.,* Comments of Entergy Corporation and Entergy Services, Inc. 4-5 (May 6, 2002) [hereinafter *Entergy Comments*]; Comments of SCANA Corporation 7, 41 (May 6, 2002) [hereinafter *SCANA Comments*]; Comments of American Electric Power Company, Inc. 4 (May 6, 2002) [hereinafter *AEP Comments*]; Comments of Sid Richardson Energy Services Co. 3 (May 6, 2002) [hereinafter *Sid Richardson Comments*]; Comments of Palomar Communications, Ragan Communications, *et al.* 30-32 (May 6, 2002) [hereinafter *Tilles Joint Commenters*].

²² *E.g., APCO Comments* at 11-19.

²³ Under the telecommunications requirements category, the FCC must ascertain current and future spectrum requirements. The analysis should identify specific spectrum bands, geographic areas, and service categories that will need additional spectrum. It also should explain why the existing spectrum allocation is insufficient and include information on bandwidth projections, spectrum placement options, and intended use. In addition, the FCC must anticipate new service needs and technological developments that will emerge in the near future and assess their impact on the need for spectrum capacity and capability. When considering the impact of these needs and developments, the FCC must take into account the degree of use, priority, and geographic area. Finally, the FCC must estimate the growth and requirements of emergency and non-

alternatives;²⁵ and (4) interoperability.²⁶ Because of the numerous issues involved with an allocation of Public Safety spectrum, the FCC has noted that "forecasting demand for spectrum has been extremely problematic."²⁷

emergency communications, including the manner in which it could meet these requirements and the interrelationship between the two types of communications. Public Safety Wireless Advisory Committee, *Final Report to the FCC and the NTIA* 58-66 (1996) [hereinafter *PSWAC Final Report*]; In re 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, *Notice of Proposed Rule Making*, 11 F.C.C. Rcd. 12460, 12477-79, 12484-85 ¶ 46, 49, 70, 71 (1996) [hereinafter *PSWAC NPRM*]; In re Report and Plan for Meeting State and Local Government Public Safety Agency Spectrum Needs through the Year 2010, *Report and Plan*, 10 F.C.C. Rcd. 5207, 5211, 5238-39 (1995) [hereinafter *1995 FCC Public Safety Report*]; Federal Public Safety Telecommunications Requirements, 49 Fed. Reg. 9754 (Mar. 15, 1984) [hereinafter *1984 Public Safety Notice of Inquiry*].

²⁴ To determine the availability or suitability of spectrum, the FCC typically investigates the advantages and disadvantages of particular bands. The FCC also must determine whether the spectrum needs are nationwide or localized as well as which potential alternative spectrum bands are the most or least desirable. The factors that affect these decisions include potential applications, location, potential increases in population, mobility, and crime, and the cost and availability of equipment. *PSWAC NPRM*, 11 F.C.C. Rcd. at 12487-88 ¶ 74-78; *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. at 5211, 5215-16, 5239; *1984 Public Safety Notice of Inquiry*, 49 Fed. Reg. 9754.

²⁵ The technical issues generally revolve around the ability of different types of technologies to address the perceived spectrum shortage. The FCC examines whether emerging technologies, including digital, trunking, or narrowband equipment, will increase or reduce the need for spectrum. The FCC also considers whether these technologies are available, efficient, reliable, and compatible with existing systems. Issues related to the replacement of systems are also important to the analysis, including the average useful life of equipment, the age distribution of the system, the percentage of the system that the licensee would have to replace, and the frequency with which licensees replace their systems. The FCC also considers the cost impact of new technologies. In addition to technical alternatives to a spectrum allocation, the FCC also must consider economic options. For example, the FCC should calculate spectrum needs after weighing the economic incentives associated with commercial use, exclusive use, spectrum sharing, and grants of spectrum conditioned on the deployment of efficient technologies. *PSWAC Final Report* at 37-48; *PSWAC NPRM*, 11 F.C.C. Rcd. at 12481-85, 12492-93 ¶ 56-68, 72, 91-92; *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. at 5211, 5215-16, 5240-42; *1984 Public Safety Notice of Inquiry*, 49 Fed. Reg. 9754.

²⁶ The FCC also investigates issues related to interoperability. The FCC examines federal, state, and local coordination of emergency communications to identify procedures that could increase the efficiency of coordination during emergencies. The analysis also focuses on the day-to-day, mutual aid, and emergency interoperability needs of Public Safety agencies as well as the

B. The FCC Employs an In-Depth Process to Identify and Allocate Public Safety Spectrum

The Administrative Procedure Act requires the FCC to consider the issues relevant to a rulemaking adequately and to make an informed decision based on a substantial record.²⁸ To comply with this statutory requirement, and avoid making an arbitrary and capricious decision, the FCC must follow a deliberate, two-part, decision-making process through which it (1) conducts a study to identify current and future Public Safety spectrum needs, and (2) initiates a separate rulemaking proceeding. During each part of the process, the FCC requests multiple rounds of public comment. The FCC has followed this process in its recent allocations of Public Safety spectrum, including the 800 MHz NPSPAC channels, the 700 MHz band, and the 4.9 GHz band.

1. The FCC Must Conduct an Independent Study on Current and Future Public Safety Spectrum Requirements

available options to meet those needs. Finally, the FCC must consider the proper definition of "Public Safety" with respect to eligibility for the frequencies. *PSWAC Final Report* at 49-57; *PSWAC NPRM*, 11 F.C.C. Rcd. at 12469-75 ¶ 23-25, 28-38; *1984 Public Safety Notice of Inquiry*, 49 Fed. Reg. 9754.

²⁷ *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. at 5242. The federal government has recognized the problems presented by Public Safety spectrum management and has initiated Project SAFECOM to coordinate its wireless communications projects under the Federal Emergency Management Agency. Thomas R. Temin, *FEMA Will Oversee All Wireless Efforts*, GOVERNMENT COMPUTER NEWS (June 5, 2002), available at http://www.gcn.com/vol1_no1/daily-updates/18892-1.html.

²⁸ 5 U.S.C. § 706; see *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. at 5236 ("It is better, we believe, to delay our decision [on the allocation of Public Safety spectrum] if this additional time can be used to gather the information necessary for informed judgments . . . thus enabling us to reach reasonable and defensible conclusions regarding the adequacy of frequency allocations for state and local public safety agencies.").

The FCC must conduct or commission an independent study to identify current and future Public Safety spectrum requirements.²⁹ To identify these requirements, the FCC needs "specific, quantified data" that has been collected in "a comprehensive and systematic manner."³⁰ In the *NPRM*, the FCC reiterated that it "require[s] quantitative information on public safety agencies' needs for additional spectrum."³¹

If the FCC lacks this data after completing the study, or if the data is not "comprehensive and systematic," the FCC must collect additional data. For example, in its 1995 Report to Congress, the FCC postponed the allocation of Public Safety spectrum because the information provided by commenters lacked "a detailed analysis supporting [the] projected needs."³² Thus, the FCC should conduct an independent study to gather the information necessary to determine current and future Public Safety spectrum requirements and whether a rulemaking is necessary.

2. The FCC Must Initiate a Separate Rulemaking Proceeding to Address the Complicated Issues Raised by a Proposed Public Safety Spectrum Allocation

In conjunction with its studies on current and future Public Safety spectrum needs, the FCC must initiate a separate rulemaking proceeding to focus on the complicated spectrum

²⁹ *PSWAC Final Report; 1995 FCC Public Safety Report*, 10 F.C.C. Rcd. 5207; Private Radio Bureau, *Report on Future Public Safety Telecommunications Requirements*, PR Docket No. 84-232 (Aug. 1, 1985), released by Order Regarding Staff Report, *Future Public Safety Telecommunications Requirements*, 50 Fed. Reg. 32239 (Aug. 9, 1985); Private Radio Bureau, *Future Private Land Mobile Telecommunications Requirements: Final Report*, released by Amendment to the Commission's Rules to Allocate Frequencies in Specific MHz Bands for Private Land Mobile Use; GEN Docket No. 84-1233, *Notice of Proposed Rule Making*, FCC 84-575, 50 Fed. Reg. 1582 (Jan. 11, 1984) [hereinafter *1985 FCC Public Safety Report*].

³⁰ *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. at 5213-14. In the *NPRM*, the FCC reiterated that it "require[s] quantitative information on public safety agencies' needs for additional spectrum." *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 5.

³¹ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 5.

³² *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. at 5236.

allocation issues.³³ This proceeding accumulates targeted comments on the same issues addressed by the studies, eventually subjecting these issues to multiple rounds of public comment to ensure the existence of a complete record.

For example, the FCC has used the findings in the *PSWAC Final Report* to support spectrum allocations in the 700 MHz band and the 4.9 GHz band.³⁴ The FCC initially broached the issue of a Public Safety spectrum allocation in the 700 MHz band in its Digital Television reallocation proceeding.³⁵ Instead of resolving the issue in that complicated docket, however, the FCC initiated a separate proceeding to request comment on the potential allocation.³⁶ Thus, the FCC issued a *Notice of Proposed Rulemaking* requesting comment on a proposal to reallocate 24 MHz in the 700 MHz band to Public Safety services.³⁷

C. The FCC Should Not Allocate Any Additional Public Safety Spectrum until It Completes the Standard Process

In the current rulemaking proceeding, the FCC has bypassed certain critical elements of the Public Safety spectrum allocation process and risks making an arbitrary and capricious decision in violation of the Administrative Procedure Act. Despite the outdated nature of the

³³ *PSWAC NPRM*, 11 F.C.C. 12460; *1985 FCC Public Safety Report*, 50 Fed. Reg. 1582; *1984 Public Safety Notice of Inquiry*, 49 Fed. Reg. 9754.

³⁴ In re 4.9 GHz Band Transferred from Federal Government Use; WT Docket No. 00-32, *Notice of Proposed Rulemaking*, 15 F.C.C. Rcd. 4778 (2000); In re Reallocation of Television Channels 60-69, the 746-806 MHz Band; ET Docket No. 97-157, *Notice of Proposed Rule Making*, 12 F.C.C. Rcd. 14141 (1997).

³⁵ In re Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service; MM Docket No. 87-268, *Sixth Report and Order*, 12 F.C.C. Rcd. 14588, 14626 ¶ 80 (1997) [hereinafter *DTV Sixth Report and Order*]; In re Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service; MM Docket No. 87-268, *Sixth Further Notice of Proposed Rule Making*, 11 F.C.C. Rcd. 10968, 10980 ¶ 26.

³⁶ *DTV Sixth Report and Order*, 12 F.C.C. Rcd. at 14626 ¶ 80.

³⁷ In re Reallocation of Television Channels 60-69, the 746-806 MHz Band; ET Docket No. 97-157, *Notice of Proposed Rule Making*, 12 F.C.C. Rcd. 14141 (1997).

1996 *PSWAC Final Report* and the recent changed circumstances, the FCC has not conducted or commissioned a new study. The FCC has also combined the allocation issue with an already-complicated proceeding on interference resolution rather than initiating a separate proceeding. Finally, by overly streamlining the Public Safety spectrum allocation issue, the FCC limits the public's opportunity to comment.

1. The FCC Should Reassess the Spectrum Needs of Public Safety Entities to Account for Changed Circumstances

The FCC should conduct an independent study into current and future Public Safety spectrum needs before allocating any additional spectrum because existing studies no longer appear to be accurate. Because the PSWAC completed the most recent investigation into the Public Safety spectrum needs approximately six years ago,³⁸ many commenters dispute the continuing validity of this study for allocating additional spectrum to Public Safety services.

APCO asserts that Public Safety spectrum needs have increased by 32 MHz since the 1996 *Final Report*, implying that the existing study is inadequate.³⁹ In contrast to this assertion, other commenters state that they "have not seen evidence of any drastic, immediate need for spectrum that would justify the relocation schemes advanced in connection with the NPRM."⁴⁰ The divergent views exhibited in these comments support Cinergy's recommendation that the

³⁸ *PSWAC Final Report*. Although the Public Safety Wireless Network issued a report on current and future needs in January 2000, the eleven-page document contains no empirical evidence and constitutes little more than a list of demands. Public Safety Wireless Network, *Public Safety Radio Frequency Spectrum: Highlighting Current and Future Needs* (Jan. 2000), available at http://www.pswn.gov/library/pdf/pubsaf_currfutneeds.pdf.

³⁹ *APCO Comments* at 15-16.

⁴⁰ Comments of Skitronics, LLC 40 (May 6, 2002) [hereinafter *Skitronics Comments*]; see, e.g., Comments of National Ready Mixed Concrete Association 2 (May 6, 2002); *UTC Comments* at 29-30.

FCC identify current and future Public Safety needs prior to an allocation of additional Public Safety spectrum.⁴¹

In particular, the events of September 11th raise concerns over the accuracy of the 1996 *PSWAC Final Report*. While APCO stresses that additional spectrum is necessary to maintain the heightened levels of security required to protect the public,⁴² Cinergy, as well as other commenters, believe that these increased precautions extend beyond traditional Public Safety agencies to encompass critical infrastructure industries, such as utilities.⁴³

The trend toward enhanced priority for these types of facilities appears in recent executive pronouncements, legislation, administrative agency action, and FBI terror warnings. For example, President Bush's proposal for a Department of Homeland Security recognizes "that terrorists are capable of causing enormous damage to our country by attacking our critical infrastructure," including private electrical, nuclear, and gas providers.⁴⁴ The new Department would include a division on Information Analysis and Infrastructure Protection to protect these vital assets, systems, and functions.⁴⁵ In the Balanced Budget Act of 1997, Congress expanded the definition of "public safety radio services" expressly to include utilities.⁴⁶ The FCC also requested comment on modifying the definition of "Public Safety" to include utilities in the recent 4.9 GHz *Further Notice of Proposed Rulemaking*.⁴⁷ In addition, the National

⁴¹ See, e.g., *Skitronics Comments* at 40 ("[a] careful study of public safety needs should be undertaken").

⁴² *APCO Comments* at 17.

⁴³ E.g., *UTC Comments* at 30.

⁴⁴ President George W. Bush, *Department of Homeland Security* 8, 15 (June 2002) [hereinafter *Homeland Security Proposal*].

⁴⁵ *Id.*

⁴⁶ 47 U.S.C. § 309(j)(2)(A) (Supp. 2001).

⁴⁷ *4.9 GHz Second Report and Order*, 17 F.C.C. Rcd. 3955 ¶¶ 32-38.

Telecommunications and Information Administration ("NTIA") also recommended that utilities receive preferential treatment from the FCC with respect to spectrum allocation because of their critical services.⁴⁸ Finally, while utilities were already an inviting target to terrorists,⁴⁹ the federal government has recently increased the state of alert at nuclear plants operated by utilities.⁵⁰

Some commenters may disagree with the necessity of a new or updated study, but their complaints are inconsistent with the FCC's standard decision-making process. In its comments, Nextel notes that the FCC had traditionally conducted thorough and lengthy studies prior to allocating spectrum to Public Safety users and updated the studies to account for changed circumstances, but it recommends an 800 MHz realignment based on a six-year-old report and an eleven-page update filed over two years ago.⁵¹ As Nextel itself illustrates by citing various FCC reports issued between 1986 and 1995, this recommendation stands in direct contrast to the FCC's past practice with respect to Public Safety allocations.

Thus, Cinergy recommends a recalculation of Public Safety spectrum requirements to incorporate the need to allocate additional spectrum for utilities and other critical infrastructure industries. Because of the question of the continued validity of the 1996 *PSWAC Final Report*,

⁴⁸ Marshall W. Ross and Jeng F. Mao, Current and Future Spectrum Use by the Energy, Water, and Railroad Industries, Response to Title II of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2001 Pub. L. 106-553, U.S. Department of Commerce, National Telecommunications and Information Administration 3-3 (Jan. 30, 2002) [hereinafter *NTIA Report*].

⁴⁹ Jayson Blair, Post-9/11, Questions About Security at Electric Plants, N.Y. TIMES, May 17, 2002; Robert Charles, *Priority Required for Protecting Utilities*, WASH. TIMES, Mar. 4, 2002, at A17; David Johnston and James Risen, *Seized Afghan Files Show Intent, Not Plans*, N.Y. TIMES, Feb. 1, 2002, at A13.

⁵⁰ Nuclear Plants Put on Higher Alert: Intelligence Did Not Specify Threat, Spokeswoman Says, ASSOC. PRESS, May 25, 2002.

as well as the changed circumstances after September 11th, the FCC should not allocate any additional spectrum to Public Safety until it conducts an independent study to collect "specific, quantified data" in "a comprehensive and systematic manner" concerning the issues discussed above in Section III.A.

2. The FCC Should Initiate a Separate Rulemaking Proceeding to Address the Issue of Allocating Additional Public Safety Spectrum

After completing its study, the FCC should decide whether to initiate a separate proceeding to ensure that it reaches a "reasonable and defensible conclusion."⁵² Because the primary issue in this proceeding involves the resolution of interference and the threatened imposition of a multi-billion dollar relocation of incumbent licensees, many commenters state that the Public Safety allocation issue unnecessarily adds a multitude of difficult issues to an already-complicated proceeding.⁵³

In addition, the consolidation of the spectrum study and the rulemaking proceeding improperly streamlines the Public Safety allocation inquiry. Instead of multiple rounds of public comment, the current proceeding would afford the public only a limited opportunity to participate. To compound this problem, commenters have already started to complain that the initial thirty-day comment period did not provide enough time to address all the issues adequately.⁵⁴ Based on the preoccupation of most incumbent licensees with the prospect of an

⁵¹ Comments of Nextel Communications, Inc. 32-35 (May 6, 2002) [hereinafter *Nextel Comments*].

⁵² *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. at 5236.

⁵³ E.g., *Private Wireless Coalition Comments* at 8; *Entergy Comments* at 4-5; *SCANA Comments* at 7, 41; *AEP Comments* at 4; *Richardson Comments* at 3; *Tilles Joint Commenters* 30-32.

⁵⁴ Comments of Pinnacle West Capital Corporation 5 (May 6, 2002) [hereinafter *Pinnacle West Comments*]; Comments of Island SMR, Inc. 1 (May 6, 2002) [hereinafter *Island SMR Comments*].

unfunded relocation, the Public Safety allocation issue did not receive these commenters' full attention. Commenters that did discuss this issue based their observations on the outdated information in the *PSWAC Final Report*.⁵⁵ Thus, the FCC should initiate a separate proceeding to address the Public Safety spectrum allocation issue in order to issue an informed decision and to avoid any delay in the resolution of the interference problem.

D. The 800 MHz Band Is Not A Suitable Location for Additional Public Safety Spectrum

If it decides to undertake a Public Safety spectrum allocation in this proceeding, the FCC should avoid any allocations in the 800 MHz band. Several commenters agreed with Cinergy that the 800 MHz band would not provide a suitable location for these licensees because of the existing congestion and the continued presence of commercial providers.⁵⁶ As UTC notes, "[t]he band has evolved over 30 years and is heavily used by utilities, among others, that have invested hundreds of millions of dollars into deploying and maintaining extensive systems."⁵⁷ NAM and MRFAC agree that the 800 MHz band could not sustain another Public Safety allocation.⁵⁸

If Public Safety licensees must remain in the 800 MHz band, Cinergy recommends that the FCC encourage shared Public Safety/Public Service radio systems rather than an allocation of additional Public Safety spectrum. Shared systems conserve spectrum and permit users to deploy more efficient technology. Many commenters have already observed a trend among

⁵⁵ *E.g.*, *UCAN Comments* at 3-4; *IAFC/IMSA Comments* at 6; Comments of State of New York Office for Technology 2-3, 29-33 (May 2, 2002) [hereinafter *New York State Comments*]; *APCO Comments* at 11; Comments of Motorola 5-6 (May 6, 2002) [hereinafter *Motorola Comments*]; *Nextel Comments* at 34; Comments of Bergen County Police Department 6 (May 6, 2002) [hereinafter *Bergen County Police Comments*].

⁵⁶ *E.g.*, *NAM/MRFAC Comments* at 6; *UTC Comments* at 28.

⁵⁷ *UTC Comments* at 28.

⁵⁸ *NAM/MRFAC Comments* at 6.

Public Safety users to "migrat[e] toward high-capacity, more interference-resistant digital systems."⁵⁹ The *PSWAC Final Report* also supported the development of more shared and joint use systems as well as the deployment of more spectrally efficient radio projects on the state and regional levels to ensure sufficient spectrum for Public Safety users.⁶⁰ Commenters agree that "shared systems should help to mitigate the need for additional public safety spectrum in the 800 MHz band."⁶¹ "These shared systems promote interoperability with, and improve the quality of, Public Safety communications by extending the coverage and capacity; they are made affordable because the costs are shared on a non-profit basis."⁶²

IV. THE FCC SHOULD INVESTIGATE WHETHER INTERFERING LICENSEES COMPLY WITH THE FCC'S RULES PRIOR TO IMPLEMENTING A COSTLY AND DISRUPTIVE REBANDING PLAN

In its *White Paper*, Nextel asserts that harmful interference occurs "*even though all licensees are operating in compliance with the FCC's rules and the terms and conditions of their FCC licenses.*"⁶³ While interference could conceivably occur while licensees operate within their fixed technical parameters (because the rules were not designed to permit Nextel's unconventional operations), the FCC has promulgated multiple rules to govern the mitigation of

⁵⁹ Comments of Coupe Communications 3 (May 6, 2002) [hereinafter *Coupe Comments*]; e.g., *UTC Comments* at 29.

⁶⁰ *PSWAC Final Report* at 3; see also In the Matter of Report and Plan for Meeting State and Local Government Public Safety Agency Spectrum Needs through the Year 2010, *Report and Plan*, 10 F.C.C. Rcd. 5207, 5245-46 (1995) (encouraging Public Safety wide-area shared systems to meet Public Safety spectrum needs).

⁶¹ *UTC Comments* at 29; e.g., *NRECA Comments* at 7.

⁶² *UTC Comments* at 29.

⁶³ Nextel Communications, Inc., 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 7 (Nov. 21, 2001) [hereinafter *Nextel White Paper*].

interference. Nextel has also made certain representations concerning interference resolution with respect to its unconventional operations. Because the solutions outlined in the *NPRM* would generate significant costs and disruption, the FCC should first confirm that the problem is not the result of licensee noncompliance.⁶⁴

A. The FCC Could Resolve Interference by Enforcing Its Technical, Operational, and Interference Mitigation Rules

While the Enforcement Bureau has determined that interference occurred "when the public safety mobile or portable radio was proximate to a CMRS transmitter," the *NPRM* does not indicate whether the Bureau has independently ensured that all affected licensees comply with Part 90's technical and operational rules.⁶⁵ Before implementing a costly and disruptive retuning or relocation, the FCC should investigate this issue.

Even if these licensees operate in compliance with the applicable technical and operational rules, the FCC has promulgated rules under sections 90.173(b) and 90.403(e) to govern interference mitigation. As Cinergy and several other commenters stated in their comments, section 90.173(b) requires licensees to cooperate in order to reduce interference.⁶⁶ If the licensees are unable to reach a mutually satisfactory agreement, however, the FCC "may impose restrictions[,] including specifying the transmitter power, antenna height, or area or hours

⁶⁴ *E.g.*, *DART Comments* at 3; Comments of National Rural Electric Cooperative Association 11 (May 6, 2002) [hereinafter *NRECA Comments*]; Response of Skitronics, LLC, to the Initial Regulatory Flexibility Analysis 4 (May 6, 2002) [hereinafter *Skitronics RFA Response*]; *UTC Comments* at 7.

⁶⁵ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 14.

⁶⁶ 47 C.F.R. § 90.173(b) (2001); *E.g.*, Letter from Dennis C. Brown to Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau 4 (Dec. 17, 2001) [hereinafter *Brown Paper*]; Comments of Carolina Power and Light and TXU Business Services 7 (May 6, 2002) [hereinafter *CP&L/TXU Comments*]; *DART Comments* at 3; *NRECA Comments* at 11; *Skitronics RFA Response* at 4; *UTC Comments* at 7.

of operation of the stations concerned."⁶⁷ Section 90.403(e) contains a similar rule on interference mitigation, requiring all licensees to "take reasonable precautions to avoid causing harmful interference."⁶⁸

Many commenters believe that the enforcement of these rules "would resolve interference and preserve options."⁶⁹ The National Rural Electric Cooperative Association notes that Chairman Powell has called for the use of "strong enforcement tools against harmful interference"⁷⁰ as a tool for effective spectrum management.⁷¹ These commenters implore the FCC to use its existing enforcement authority to resolve this interference.⁷² "Only when Nextel is no longer imposing on its spectrum neighbors can the Commission reasonably consider any proposal for changes to its current Rules."⁷³

B. The FCC Should Require Nextel to Employ Technical Measures to Resolve Harmful Interference

The FCC should require Nextel to implement technical measures in order to resolve interference in the 800 MHz band. Several commenters support this requirement, citing the waiver request filed by Nextel's predecessor, Fleet Call, through which it established a

⁶⁷ 47 C.F.R. § 90.173(b); *see, e.g., CP&L/TXU Comments* at 7.

⁶⁸ 47 C.F.R. § 90.403(e).

⁶⁹ *E.g., DART Comments* at 3.

⁷⁰ *NRECA Comments* at 11 (quoting Remarks of Commission Chairman Michael Powell at the NTIA Spectrum Summit, Apr. 4, 2002).

⁷¹ *Id.* at 11.

⁷² *E.g., Brown Paper* at 4; *CP&L/TXU Comments* at 7; *NRECA Comments* at 11; *Skitronics RFA Response* at 4; *UTC Comments* at 7, 15.

⁷³ *Brown Paper* at 4.

cellularized CMRS system in the 800 MHz band.⁷⁴ In this waiver request, Fleet Call stated that interference would be an isolated event and "can be resolved by utilizing a number of frequencies, reducing power or height, re-orienting or changing directional antennas, or employing electrical or mechanical beam-tilt."⁷⁵ Cinergy agrees that the FCC should hold Nextel accountable for this promise to employ technical remedies. "Public Safety and B/ILT licensees should not be disrupted because Nextel no longer finds a technical approach to the problem convenient or financially attractive."⁷⁶

C. Commercial Licensees Should Cooperate with Public Safety Licensees in the Resolution of Harmful Interference

Despite the FCC's rules requiring licensees to cooperate in order to reduce harmful interference, Public Safety commenters report that commercial licensees in the 800 MHz band have only grudgingly cooperated, if they have cooperated at all. According to the UCAN, "some commercial providers will work [on] issues, [but] others take a 'its [sic] not our problem stance."⁷⁷

In particular, the comments filed by the City of Portland illustrate the intransigence of a certain commercial provider. Portland stated that "[c]omplaint calls into Nextel were basically unanswered" until reports of these problems began to surface in the media.⁷⁸ Even after Nextel started to comply with its regulatory obligation to cooperate, it continued to drag its feet on a

⁷⁴ E.g., *AEP Comments* at 17; *CP&L/TXU Comments* at 8-10; Comments of Commercial Radio and Television, Inc. 2 (May 6, 2002) [hereinafter *CR&T Comments*]; Comments of Madison County East Transit District 10 (May 6, 2002) [hereinafter *Madison County Comments*].

⁷⁵ *CP&L/TXU Comments* at 10 (quoting Fleet Call Waiver Request, A-13).

⁷⁶ *AEP Comments* at 17.

⁷⁷ *UCAN Comments* at 3 ¶ 9.

⁷⁸ *Portland Comments* at 3.

subsequent Letter of Understanding and reversed successful interference mitigation efforts.⁷⁹ Thus, Nextel's behavior in this situation clearly violated the underlying purpose of the FCC's interference mitigation rules, if not the rules themselves.

Based on the problems some Public Safety licensees have had cooperating with interfering entities, the FCC should verify through an independent investigation that these interfering licensees comply with the existing rules and conditions. If these licensees do not operate in accordance with the applicable technical, operational, and interference mitigation requirements, the FCC should enforce these rules before imposing a costly and disruptive solution.

V. THE FCC SHOULD IMPLEMENT A MARKET-BASED APPROACH FEATURING TECHNICAL SOLUTIONS

The FCC should explore technical solutions to the Public Safety interference problem before implementing a rebanding solution. The record indicates that technical measures are integral to interference resolution because rebanding will not eliminate the problem. A majority of the commenters in this proceeding recommend the use of technical means to resolve this interference. Some of these commenters, including Public Safety licensees, provide examples of technical measures that have successfully resolved interference from Nextel or other low-site digital carriers. Although these commenters do not agree on any specific solution, they propose a variety of CMRS-specific and Public Safety-specific measures that would resolve the problem without resort to retuning or relocation.

⁷⁹ *Id.* at 4, 6.

A. The Record Does Not Demonstrate that Rebanding Will Resolve the Interference Problem

1. Public Safety Interference Would Continue to Exist After the Implementation of a Retuning or Relocation

The record indicates that in-band retuning or relocation would not eliminate Public Safety interference. In its *NPRM*, the FCC acknowledges that "[i]t is not intuitively obvious that either Nextel's or NAM's proposed reconfiguration of the 800 MHz band would significantly reduce intermodulation interference."⁸⁰ Many commenters concur with the FCC's conclusion, observing that "Nextel's proposal appears to do little to address a significant part of the problem."⁸¹ In particular, commenters share the FCC's concern about continuing intermodulation interference. According to AEP, "[m]oving the B/ILT users to other bands leaves Nextel's cellular architecture within the pass bands of existing public safety receivers. As long as the receivers continue to "hear the low-site signals within their pass bands, intermodulation will continue to occur."⁸²

Significantly, several commenters who have battled interference from Nextel's low-site digital systems note that retuning or relocation will not eradicate the problem. Harmer Communications, a former "upper 200" SMR licensee that Nextel relocated within the 800 MHz band, complains that it continues to suffer interference from Nextel even eighteen months after starting its relocation.⁸³ The City of Portland also states that "[t]he band re-alignment approach would *not resolve* the interference problems currently being experienced by [its] mobile data

⁸⁰ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 27.

⁸¹ *NRECA Comments* at 10.

⁸² *AEP Comments* at 5.

⁸³ Comments of Harmer Communications 2 (May 3, 2002) [hereinafter *Harmer Comments*].

system."⁸⁴ In addition, "utilities have learned through their own experience with interference from Nextel that spectral separation alone does not solve the interference problem."⁸⁵

2. Technical Solutions Are Integral to Interference Resolution

Although some commenters suggest that retuning or rebanding would resolve some types of interference, they recognize that complementary solutions are necessary to eliminate Public Safety interference completely. Even proponents of these retuning or relocation plans concede that technical solutions are a necessary component of interference resolution.⁸⁶ These commenters state that "technical solutions . . . will continue to be needed after such changes are implemented."⁸⁷ In particular, the retuning or relocation proposals "will all need to be augmented with other remedies because rebanding alone will not completely eradicate the potential for intermodulation interference to occur throughout the 800 MHz band."⁸⁸

The proposed complementary solutions are, not surprisingly, identical to those recommended by proponents of technical solutions. Because the FCC must implement these technical solutions regardless of its chosen means of resolving interference, Cinergy believes that the most cost-effective means of resolving interference would employ technical solutions first and would only impose retuning or relocation as a last resort. Such an approach would avoid

⁸⁴ *Portland Comments* at 9.

⁸⁵ *UTC Comments* at 18.

⁸⁶ *E.g.*, *Nextel Comments* at 23-25; Comments of TRW, Ohio MARCS Program Office 3 (May 6, 2002) [hereinafter *TRW Comments*]; Comments of Cellular Telecommunications & Internet Association 7-8 (May 6, 2002) [hereinafter *CTIA Comments*]; Comments of RadioSoft at 6 (May 6, 2002) [hereinafter *RadioSoft Comments*]; Comments of Office of the Chief Technology Officer, Government of the District of Columbia at 16-17 [hereinafter *District of Columbia Comments*]; Comments of M/A-COM, Inc. 11 (May 6, 2002) [hereinafter *M/A-COM Comments*]; *Private Wireless Coalition Comments* at 11-13; *Pinnacle West Comments* at 11-13, 15-16.

⁸⁷ *UTC Comments* at 10; *see e.g.*, *API Comments* at 5-6.

unnecessary imposition of cost and disruption on incumbent licensees in accordance with the FCC's stated goal in this proceeding. Conversely, the implementation of rebanding as the first alternative to resolving interference, as proposed by Nextel,⁸⁹ would adversely affect uninvolved licensees or licensees that could resolve their interference problems inexpensively through technical measures. Thus, the similarity of these proposed solutions, and their necessity to the resolution of interference, suggest that the FCC should consider implementing these technical solutions prior to imposing a costly and disruptive rebanding.

3. Incumbent Licensees Would Suffer Additional Problems as a Result of Retuning or Relocation

Commenters also identify additional burdens that would arise from any mandatory retuning or relocation. In particular, Baltimore County asserts that relocation of Public Safety licensees "could create additional interference and interoperability problems."⁹⁰ Commenters also express concern that the FCC "may find in the end that it has imposed millions of dollars in retuning and related costs, not to mention wide-spread disruption, upon countless 800 MHz band licensees *without even making a substantial dent in the interference problem.*"⁹¹ A substantial portion of these costs would result from the replacement systems that licensees would have to purchase and deploy, as described in greater detail below.⁹² Public Safety licensees agree with these concerns, noting that any type of retuning or relocation would "require substantial

⁸⁸ *Motorola Comments* at 17.

⁸⁹ *Nextel Comments* at 25.

⁹⁰ Comments of Baltimore County Office of Information Technology 4 (Apr. 12, 2002) [hereinafter *Baltimore County Comments*]

⁹¹ *API Comments* at 5.

⁹² *CR&T Comments* at 3; Comments of E.F. Johnson 2 (May 6, 2002) [hereinafter *E.F. Johnson Comments*]; *Motorola Comments* at 23.

expenditure of time and resources.⁹³ Because of these additional complications, CR&T comments, "any type of re-banding only makes a bad situation worse."⁹⁴

4. Commenters Oppose Nextel's Plan to Realign the 800 MHz Band

In addition to the universal condemnation of the Business and I/LT licensees, several Public Safety commenters voice their displeasure with the relocation concept, including the State of Michigan, the Commonwealth of Virginia, the City of Newport News, the City of New York, and the City of Baltimore.⁹⁵

B. Widespread Support Exists for Technical Solutions over Rebanding

1. Commenters Have Reported the Successful Resolution of Harmful Interference through the Use of Technical Measures

The comments contain numerous examples of licensees that have resolved harmful interference through technical measures.⁹⁶ Although interference resolution will vary depending on the circumstances, many commenters have reduced or eliminated interference by correcting the lack of selectivity in Public Safety receivers, reducing the interfering licensee's signal strength, or using cavity combiners instead of hybrid combiners.

Public Safety licensees have found that interference resolution was a quick and inexpensive process easily fixed through modifications to correct the lack of selectivity in their

⁹³ *E.g.*, *APCO Comments* at 22; *see, e.g.*, Comments of Commonwealth of Virginia, Department of Information Technology 4 (May 6, 2002) [hereinafter *Virginia Comments*].

⁹⁴ *CR&T Comments* at 1; *see, e.g.*, Comments of American Water Works Association 2 (May 6, 2002); Comments of New York City Transit Authority 9 (May 6, 2002) [hereinafter *NYCTA Comments*].

⁹⁵ *E.g.*, Comments of Michigan State Police Communications Division 1-2 (May 6, 2002) [hereinafter *Michigan State Police Comments*]; *Virginia Comments* at 4; Comments of City of Newport News 1 (May 4, 2002) [hereinafter *Newport News Comments*]; Comments of City of New York 2 (Apr. 5, 2002); *Baltimore City Comments* at 3-4, 5-6.

receivers. For example, Portland discovered that a "single component replacement" would "greatly improve[] the performance of the MTS receiver in high RF areas. The cost of this modification is less than a dime per unit for parts."⁹⁷ Similarly, the State of Florida notes that it merely had to change the receiver pads in its mobile receiver to "successfully operate on the desired frequency."⁹⁸

In addition, Public Safety licensees have also reduced interference by having the interfering licensee reduce its signal strength.⁹⁹

Finally, Public Safety, Business, and I/LT licensees have resolved interference through the "installation of adequate filtration."¹⁰⁰ San Diego County-Imperial County reported that "[t]ransmitter combiners used by Nextel are a wideband type without cavity filters. These combiners are inferior and have resulted in emissions that cause harmful interference on some of our channels."¹⁰¹ Danny Hampton, a former technician for Nextel who now consults on interference problems, observed an increase in interference when "[c]avity combiners were replaced with hybrid combiners which allowed the addition of more channels at a given site in a small physical footprint within the site equipment shelter. Unfortunately, this change along with several others caused the noise floor to increase dramatically at most sites."¹⁰² Thus, these

⁹⁶ E.g., *Portland Comments* at 5; *Baltimore County Comments* at 3; *Florida Comments* at 7 ¶ 27; *UCAN Comments* at 3 ¶ 9; *Fairfax County Comments* at 6 ¶ 21.

⁹⁷ *Portland Comments* at 5.

⁹⁸ *Florida Comments* at 7 ¶ 27.

⁹⁹ Comments of San Diego County-Imperial County Regional Communications System 2 (May 6, 2002) [hereinafter *San Diego County-Imperial County Comments*].

¹⁰⁰ E.g., *Consumers Comments* at 6; see *CR&T Comments* at 1-2; *Comments of Danny Hampton* 1-2 (May 6, 2002) [hereinafter *Danny Hampton Comments*]; *Skitronics Comments* at 27.

¹⁰¹ *San Diego County-Imperial County Comments* at 2.

¹⁰² *Danny Hampton Comments* at 1-2.

commenters believe that the "use of cavity combiners would help reduce harmful interference."¹⁰³

In addition to these specific reasons, several Public Safety commenters generally support the use of technical solutions to limit the cost and disruption associated with interference resolution. The City of Gainesville Police Department believes that "[m]any of these interference problems have technical solutions that should be explored prior to enforcing any global changes in the spectrum."¹⁰⁴ Fairfax County also "believes that interference that does occur can be effectively mitigated using good engineering practice and the techniques described in the 'Best Practices Guide.'"¹⁰⁵

Despite their success resolving interference through technical solutions, some Public Safety licensees harbor concerns about the willingness of commercial carriers to cooperate in the resolution of the problem.¹⁰⁶ The City of Portland complains that after a period of interference-free operation, Nextel's engineers eventually reverted to the old network configuration, resulting in an onslaught of interference.¹⁰⁷ In addition, although UCAN experienced success with interference resolution during the 2002 Olympic Games, it discovered that some commercial licensees would not cooperate to resolve the problem.¹⁰⁸ Although these problems of commercial carrier intransigence are troublesome, the FCC could easily resolve these problems

¹⁰³ *San Diego County-Imperial County Comments* at 2; e.g., *Danny Hampton Comments* at 1-2.

¹⁰⁴ *Comments of City of Gainesville Police Department 3* (Apr. 29, 2002) [hereinafter *Gainesville Police Department Comments*].

¹⁰⁵ *Fairfax County Comments* at 5 ¶ 17.

¹⁰⁶ *Portland Comments* at 6; *UCAN Comments* at 3 ¶ 9.

¹⁰⁷ *Portland Comments* at 6.

¹⁰⁸ *UCAN Comments* at 3 ¶ 9.

by enforcing section 90.173(b) of its rules, which requires licensees to cooperate in interference resolution.

Commenters also express concern that technical or market-based measures constitute after-the-fact interference resolution.¹⁰⁹ However, the FCC recently adopted a case-by-case solution to protect Public Safety licensees from harmful interference in the 700 MHz band, stressing that this solution would address interference before it occurred.¹¹⁰ In addition, these complaints underestimate the financial incentive that low-site digital licensees would have to avoid causing interference. A market-based approach, such as that recommended by Cinergy, would set forth the rights and responsibilities of the licensees and require the responsible licensee to remedy the problem. To avoid incurring these remediation costs, potential interferors would design their systems to avoid causing interference in the first place. Thus, by establishing appropriate financial incentives, a market-based approach "would encourage businesses to [implement] . . . the most efficient and effective solutions" to the interference problem.¹¹¹

2. The Wide Variety of Proposed Technical Solutions Suggests that Interference Is Site-Specific and Defies an All-Encompassing Solution

These examples of successful interference resolution illustrate only some of the available technical solutions. While commenters overwhelmingly advocate the use of technical solutions in lieu of rebanding, they do not agree on a specific solution. For example, commenters suggest the following CMRS-specific solutions: (1) reduced signal strength; (2) antenna restrictions; (3)

¹⁰⁹ *E.g.*, *APCO Comments* at 9-10; Comments of King County Information and Telecommunications Services Division 1 (May 6, 2002).

¹¹⁰ In re Petitions for Reconsideration of the Second Memorandum Opinion and Order, Service Rules for the 746-764 and 776-794 MHz Bands and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *Third Memorandum Opinion and Order*, FCC 02-204 ¶ 17 (rel. July 12, 2002) [hereinafter *700 MHz Third Memorandum Opinion and Order*].

out-of-band emission ("OOBE") restrictions; (4) required use of cavity combiners; (5) mandatory intermodulation ratios; (6) tighter channel mask; (7) notification/consent requirement before constructing new base station sites; (8) filters; (9) secondary status; (10) tower restrictions; and (11) frequency coordination.¹¹² Most of the CMRS-specific solutions focused on narrow aspects of the technology, but some commenters recommended the prohibition of the suspected interfering system type, *i.e.*, low-site digital systems.¹¹³

Commenters also recommend Public Safety-specific solutions, including (1) increased signal strength; (2) increased sensitivity of receivers; and (3) mandated use of cellular architecture.¹¹⁴

The wide variety of technical solutions proposed by the commenters suggest a number of conclusions. The wide variety of solutions employed in the interference cases reported so far indicates that several alternatives may exist to resolve the Public Safety interference problem without resorting to rebanding. The numerous alternatives also clearly evince the desire of the commenters to comply with the FCC's goal of avoiding costly and disruptive solutions. The absence of a uniform technical solution also indicates that the interference problem is site-specific and that an over-arching solution, such as rebanding, will not work in every situation.

¹¹¹ *Skitronics Comments* at 36.

¹¹² *E.g.*, *Nextel Comments* at 23-26; *E.F. Johnson Comments* at 4; *Pinnacle West Comments* at 6, 12-13, 22-23, 27, 29, 30; *Comments of Telecommunications Industry Association* 3-5 (May 6, 2002).

¹¹³ *E.g.*, *Comments of Jamestown Communications, Inc. and Midwest Management, Inc.* 8 (May 6, 2002) [hereinafter *Jamestown/Midwest Comments*]; *Skitronics Comments* at 31. Even Nextel has represented to the FCC that it can deploy very low power "pico cells" on its 800 MHz channels and interconnect them with its 900 MHz spectrum as a means of preventing interference to Public Safety. In re FCI 900, Inc. Expedited Request for 3-Year Extension of 900 MHz Band Construction Requirements, *Memorandum Opinion and Order*, 16 F.C.C. Rcd. 11072 (2001).

¹¹⁴ *E.g.*, *Fairfax County Comments* at 7 ¶ 26; *UTC Comments* at 29; *Coupe Comments* at 3.

To resolve these problems, the FCC should permit flexibility by declining to mandate a one-size-fits-all solution and by encouraging case-by-case analysis and resolution, as proposed in Cinergy's Comments. Finally, as noted above, the wide variety of technical recommendations could simply indicate that the FCC needs to conduct independent research to ascertain the source and extent of the Public Safety interference problem.

3. The FCC Recently Concluded that Technical Solutions Adequately Protect Public Safety Licensees from Harmful Interference from CMRS Licensees

In its recent *Memorandum Opinion and Order* in the 700 MHz proceeding, the FCC supported the use of technical restrictions to prevent the occurrence of harmful interference to Public Safety licensees.¹¹⁵ In particular, the FCC concluded that to solve a localized problem, it should apply a focused solution on a case-by-case basis rather than implementing changes across an entire band.¹¹⁶ For example, the FCC found that more stringent out-of-band emission ("OOBE") standards "would be necessary only when commercial and public safety base stations are less than 500 feet from one another."¹¹⁷ Although the petitioner had requested more stringent standards for all non-public safety systems in the band, the FCC reasoned that "[i]mposing such a categorical limit on an entire CMRS system is an unnecessarily burdensome approach to the possibility that specific CMRS and public safety base stations might be located in such proximity."¹¹⁸

If the CMRS and public safety base stations were in close proximity, however, the FCC adopted case-by-case mitigation measures that were "more focused on the circumstances likely

¹¹⁵ *700 MHz Third Memorandum Opinion and Order*, FCC 02-204 ¶ 16-17.

¹¹⁶ *Id.* ¶ 16.

¹¹⁷ *Id.* ¶ 14.

¹¹⁸ *Id.*

to occasion interference."¹¹⁹ Thus, the FCC rejected the implementation of overly broad protective measures to prevent harmful interference to Public Safety licensees in the Upper 700 MHz band, while acknowledging that technical restrictions provide adequate interference protection.

C. A Market-Based Solution Would Resolve Interference Without Governmental Intervention

Cinergy agrees with the commenters that recommend a market-based solution to allow licensees to resolve interference on their own with clear FCC rules in place to delineate the parties' responsibilities. While several commenters offer market-based approaches, others support the basic idea of such a plan in their comments.¹²⁰ The specific features of these plans often vary, but most plans include the same basic concepts.

Cinergy, as well as several other commenters, recommended that the FCC clarify that the interfering licensee is ultimately responsible for resolving harmful interference.¹²¹ This clarification incorporates the existing FCC rules in sections 90.173(b) and 90.403(e) because it requires the cooperation of the licensees, encourages technical solutions, and emphasizes the enforcement of the existing rules. By expressly placing responsibility on the interfering licensee to resolve the problem, this component also comports with the widely held belief among

¹¹⁹ *Id.* ¶ 16.

¹²⁰ *E.g.*, Comments of National Rural Telecommunications Cooperative 6 (May 6, 2002) [hereinafter *National Rural Telecom Comments*], *Kankakee Comments* at 4; Comments of White County Rural Electric Membership Cooperative 4 (May 6, 2002) [hereinafter *White County Comments*]; Comments of Boone Electric Cooperative 3 (May 6, 2002) [hereinafter *Boone Comments*].

¹²¹ *E.g.*, *API Comments* at 13-14, Comments of Ameren Corporation 5 (May 2, 2002); Comments of Questar Corporation 3 (May 6, 2002) [hereinafter *Questar Comments*]; *Consumers Comments* at 8-10; *CP&L/TXU Comments* at 17-18; Comments of Omaha Public Power District and Metropolitan Utilities District 3-4 (Apr. 30, 2002); *Brown Paper* at 6; *Skitronics Comments* at 33-34.

commenters that "innocent parties should not be required to . . . participate in a compensation program for Public Safety brought about by the action of another party."¹²² In addition, Public Safety licensees would also receive reimbursement for any necessary technical changes or relocations.

Although a number of commenters support technical solutions as a separate concept from market-based solutions, the two concepts are intertwined in Cinergy's proposal. Use of technical solutions is consistent with a market-based approach because the FCC would not mandate any particular interference resolution mechanism but would allow parties to implement different technical measures depending on the situation.

The commenters also agree with Cinergy that the FCC should revise its rules to permit channel swaps and negotiated relocation.¹²³ Although technical measures would likely resolve any interference, the FCC should grant licensees flexibility to negotiate resolution on their own terms. This component would limit disruption because licensees in the 800 MHz band would not have to relocate involuntarily, thus protecting public safety and critical infrastructure industry licensees. Thus, if Nextel is correct in its assertions that relocating 800 MHz users is the only way to resolve interference, a market-based approach would allow it to implement such a relocation in accordance with the FCC's goal of minimizing disruption to licensees.

¹²² *AEP Comments* at 12; *see, e.g., New York State Comments* at 24, 46; *Newport News Comments* at 1; *Michigan State Police Comments* at 2; *Fairfax County Comments* at 4, 7 ¶¶ 12-13, 27; *IAFC/IMSA Comments* at 11.

¹²³ *E.g., UTC Comments* at 22-24; *API Comments* at 7; *TIA Comments* at 5; *NRECA Comments* at 12; *Harmer Comments* at 5; *Comments of Southern Communications Services, Inc. d/b/a Southern LINC* 24-25 (May 6, 2002) [hereinafter *Southern LINC Comments*]; *Comments of Cingular Wireless, LLC and Alltel Communications, Inc.* 20 (May 6, 2002) [*Cingular/Alltel Comments*]; *Comments of Access Spectrum, LLC* 7, 8-9 (May 6, 2002); *Qwestar Comments* at 3; *CP&L/TXU Comments* at 18-19; *Brown Paper* at 7.

D. The FCC Could Also Apply a Market-Based Solution to Other 800 MHz Licensees that Experience Harmful Interference

The market-based approach proposed by Cinergy, as well as other commenters, is also applicable to Business and I/LT licensees that cause or experience interference. Cinergy initially based its approach on the assumption that Public Safety licensees were the sole recipients of interference from Nextel and other low-site digital licensees, but the comments reveal that several Business and I/LT licensees also experienced interference from those operations.¹²⁴ Although originally designed for the Public Safety interference problem, Cinergy's market-based approach would nonetheless resolve interference between low-site digital licensees and any type of interference recipient.

VI. IF REBANDING IS NECESSARY TO RESOLVE INTERFERENCE, THE FCC SHOULD PROVIDE FOR ADDITIONAL PUBLIC SAFETY SPECTRUM IN THE 700 MHZ BAND

Cinergy believes that the FCC should apply technical or market-based solutions to resolve the 800 MHz interference problem and should update its information before allocating additional spectrum for Public Safety use. If the FCC decides to impose a mandatory relocation and allocate additional Public Safety spectrum in this proceeding, however, it should adopt an 800 MHz realignment plan that relocates Public Safety licensees to the 700 MHz band.

While several commenters propose 700 MHz Public Safety relocation plans,¹²⁵ Cinergy does not endorse a specific plan at this time. Nevertheless, Cinergy joins other commenters to support the general concepts outlined in the 700 MHz plans: (1) encourage the relocation of Public Safety licensees to the unauctioned commercial spectrum in the upper 700 MHz band

¹²⁴ E.g., *UTC Comments* at Appendix A; *Consumers Comments* at 6; *NAM/MRFAC Comments* at 7.

through negotiations;¹²⁶ (2) auction the 800 MHz NPSPAC spectrum vacated by the Public Safety licensees;¹²⁷ (3) use 800 MHz auction proceeds to fund Public Safety relocation;¹²⁸ and (4) provide additional spectrum in the 700 MHz band to Public Safety users.¹²⁹ These plans differ from the Nextel Plan because they do not involve the 700 MHz Guard Bands and they provide more spectrum for Public Safety use.

A. The 700 MHz Alternative Plans Receive Substantial Support from the Commenters

Several commenters indicate their support for a 700 MHz plan.¹³⁰ These plans received more support than any other proposal, except for technical and market-based solutions, even though the FCC had not outlined these alternatives in its *NPRM*. In addition to support from

¹²⁵ *E.g.*, *Cingular/Alltel Comments* at 16-19; *Private Wireless Coalition Comments* at 6-11; *CTIA Comments* at 8-11.

¹²⁶ *Cingular/Alltel Comments* at 17; *CTIA Comments* at 9; *Private Wireless Coalition Comments* at 7. As discussed below, these 700 MHz alternative plans differ from the Nextel Plan's use of the 700 MHz spectrum. While the Nextel Plan would relocate Business and I/LT licensees to the 700 MHz Guard Band, the 700 MHz alternative plans would relocate the Public Safety licensees to the 30 MHz of commercial spectrum not previously auctioned as Guard Bands.

¹²⁷ *Cingular/Alltel Comments* at 18; *CTIA Comments* at 9; *Private Wireless Coalition Comments* at 9.

¹²⁸ *Cingular/Alltel Comments* at 18; *CTIA Comments* at 9; *Private Wireless Coalition Comments* at 9.

¹²⁹ *Cingular/Alltel Comments* at 19; *Private Wireless Coalition Comments* at 8.

¹³⁰ *E.g.*, *Jamestown/Midwest Comments* at 6-7; Comments of Electronic Specialties, Inc., Computer Car, Inc., *et al.* 6-7 (May 6, 2002) [*Blooston Commenters*]; *Madison County Comments* at 9; Comments of Lockheed Martin Corporation 5 (May 6, 2002) [hereinafter *Lockheed Martin Comments*]; Comments of Aeronautical Radio, Inc. 1 (May 6, 2002); Comments of Fisher Wireless Services, Inc. 3, 9-10 ¶ 3, 11-13 (May 6, 2002); Comments of RCC Consultants, Inc. 5 (May 6, 2002) [hereinafter *RCC Consultants Comments*]; Comments of Boeing Company 17-19 (May 6, 2002) [hereinafter *Boeing Comments*]; *Southern LINC Comments* at 27-30; Comments of AT&T Wireless Services, Inc. 10-12 (May 6, 2002) [hereinafter *AT&T Comments*]; *Cingular/Alltel Comments* at 16-19; *Private Wireless Coalition Comments* at 6-11 (representing ARINC, AAR, Forest Industries Telecommunications, Industrial Telecommunications Association, Inc., MRFAC, NAM, Personal Communications Industry Association, and Small Business in Telecommunications).

private and commercial licensees, Public Safety commenters also recognize the potential of the 700 MHz alternative plans. In particular, APCO, the National Emergency Number Association, and Bergen County requested the postponement of the impending 700 MHz auction to permit further exploration of this alternative.¹³¹ NAM, a proponent of an in-band retuning proposal, also recognizes the benefits of the 700 MHz plans.¹³²

B. The 700 MHz Alternative Plans Would Advance the Stated Goals of This Proceeding

The widespread support for these 700 MHz alternative plans stems from the fact that they achieve the goals of this proceeding. Specifically, a 700 MHz plan will minimize disruption to existing licensees and allocate a substantial amount of additional spectrum to Public Safety users.¹³³

1. The 700 MHz Alternative Plans Would Minimize Disruption

In Section VI of its Reply Comments, Cinergy identifies shortcomings of the 800 MHz realignment plans proposed in the *NPRM* or the comments. Although the 700 MHz plans suffer from some of these problems, they provide the best available realignment solution.

a. The 700 MHz Plans Eliminate Public Safety Interference in the 800 MHz Band

¹³¹ Letter from Glen Nash, President of APCO International, to Michael Powell, Chairman of the Federal Communications Commission, WT Docket No. 99-168, GN Docket No. 01-74 1 (May 2, 2002); Comments of the National Emergency Number Association, Service Rules for the 746-764 and 776-794 MHz Bands (Television Channels 60-69), WT Docket No. 99-168, GN Docket No. 01-74, DA 02-260, 02-563, 2-3 (May 1, 2002); *Bergen County Police Comments* at 6.

¹³² *NAM/MRFAC Comments* at 4.

¹³³ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 2. As noted above, however, Cinergy disagrees with the notion that the primary goal of this proceeding should involve a search for additional Public Safety spectrum.

As discussed below in Section VI.A, most 800 MHz realignment plans would not completely resolve interference because Public Safety licensees would remain in the same band as the low-site digital licensees causing the interference. Because these plans would "leave[] Nextel's cellular architecture within the pass bands of existing public safety receivers," intermodulation interference would continue to plague these licensees.¹³⁴ By relocating one of the parties involved with this interference problem to a completely different band, however, the 700 MHz plans would "create sufficient spectral separation from the offending CMRS licensees in the 800 MHz plan," thus eliminating the intermodulation problem in the 800 MHz band.¹³⁵ Public Safety licensees acknowledge that this amount of spectral separation would eliminate the interference problem.¹³⁶

b. The 700 MHz Plans Avoid Imposing Secondary Status on Any Licensees

The 700 MHz plans never relegate incumbent licensees to secondary status. Incumbent licensees in the 800 MHz band would retain regulatory certainty and could continue to upgrade their existing systems without worrying about losing their investments.

c. The 700 MHz Plans Provide Sufficient Funding for Public Safety Interference Resolution

Unlike the Nextel Plan, Public Safety licensees would receive full reimbursement for their relocation under the 700 MHz plans. In other words, Public Safety would be relocated based on voluntary agreements guaranteeing their costs. Alternatively, and subject to legislation,

¹³⁴ *AEP Comments* at 5.

¹³⁵ Comments of Motient Communications, Inc. 17 (May 6, 2002) [hereinafter *Motient Comments*]; see *AT&T Comments* at 10-12.

¹³⁶ Comments of City of College Station and City of Bryan 2 ¶ 6 (May 6, 2002); Comments of City of Austin 1 ¶ 5 (May 6, 2002); Comments of City of Fort Lauderdale 5 ¶ 27 (May 6, 2002).

the funding for this relocation could come from the revenues of the auction of the former 800 MHz NPSPAC spectrum. The 700 MHz plans would meet Public Safety licensees' demands for "full reimbursement of public safety agencies' costs" and would guarantee the funds before the Public Safety agencies incurred any relocation expenses.¹³⁷ The 700 MHz plans would also not impose any relocation costs on innocent licensees, saving them from the inequitable financial burden of relocating themselves because of another licensee's interference.

d. The 700 MHz Plans Mitigate the Time and Cost Associated with Relocation

Cinergy opposes the 800 MHz realignment plans because they would require incumbent licensees to replace their equipment and would take a significant amount of time. While the 700 MHz plans still present these problems, they mitigate them somewhat by providing certain benefits. The relocation of Public Safety licensees to the 700 MHz band would require the replacement of these systems, but it would enable Public Safety licensees to deploy advanced technologies or new equipment that is more spectrally efficient and less susceptible to interference than their current systems.

In addition, the 700 MHz plans would solve the problems associated with replacing critical Public Safety systems. As noted above, "the 800 MHz band is home to a host of public safety and critical infrastructure industry users that cannot afford any system down-time for equipment modifications."¹³⁸ The critical nature of Public Safety operations means that licensees must construct redundant systems and operate the existing and new infrastructures

¹³⁷ *APCO Comments* at 22; *see, e.g., New York State Comments* at 24.

¹³⁸ *Motorola Comments* at 23.

simultaneously for a period of time to ensure a seamless transition.¹³⁹ By providing Public Safety with 54 MHz of spectrum, the 700 MHz plans provide enough "green space" spectrum to allow for the construction of redundant systems.

Although the transition to the 700 MHz band would take several years, Cinergy notes below that any 800 MHz realignment is likely to last much longer than predicted by Nextel. In addition, unlike the Nextel Plan, the 700 MHz Plan would guarantee interference-free Public Safety operations. This delay would allow manufacturers time to develop the necessary equipment. As discussed in greater detail below, the 700 MHz band would become available for Public Safety operations prior to the December 31, 2006 relocation deadline for incumbent broadcasters.

e. The 700 MHz Plans Provide Adequate Replacement Spectrum for Public Safety Licensees

Many commenters, including Cinergy, objected to the Nextel Plan because it would require incumbent licensees to relocate to the 700 MHz Guard Band within the next three years. Unlike the Business and I/LT licensees that must relocate to the Nextel's limited Guard Band holdings, Public Safety licensees would not experience the same problems with unavailable replacement spectrum under the 700 MHz plans.

As stated above, the 700 MHz plans would provide Public Safety licensees with 54 MHz of spectrum in contiguous blocks of 15 MHz, 12 MHz, 15 MHz, and 12 MHz, which is significantly more spectrum than Business and I/LT licensees would receive under the Nextel

¹³⁹ *E.g., id.* at 23; *Baltimore City Comments* at 3-4; *E.F. Johnson Comments* at 2; *AEP Comments* at 7.

plan.¹⁴⁰ This amount of spectrum should enable these licensees to coordinate their operations in the 700 MHz band to avoid incumbent broadcasters. Because broadcasters do not typically operate on contiguous channels in the same market, Public Safety licensees could operate on the free spectrum in those areas. In addition, vast stretches of the United States are unencumbered by broadcast operations, allowing Public Safety licensees in those regions to operate without worrying about harmful interference. Finally, incumbent broadcasters may relocate from the 700 MHz band sooner than the statutorily mandated deadline of December 31, 2006.

Although equipment does not currently exist for Public Safety operations in the 700 MHz band, manufacturers have started to produce equipment for this band.¹⁴¹ Because the FCC allocated 24 MHz of 700 MHz spectrum for Public Safety use in 1997, manufacturers have had five years to design and produce infrastructure as well as portable and mobile radio products for Public Safety consumers.

2. The 700 MHz Plans Also Provide More, New Spectrum to Public Safety Users than Any Other Plan

Under the 700 MHz plans, the Public Safety spectrum allocation in the 700 MHz band would increase from 24 MHz to 54 MHz.¹⁴² Although Cinergy believes that the FCC should conduct an independent study of existing and future spectrum needs, initiate a separate rulemaking, and request targeted public comment before allocating any additional spectrum, it

¹⁴⁰ Under the 700 MHz alternative plans, Public Safety would occupy the 747-762 MHz, 764-776 MHz, 777-792 MHz, and 794-806 MHz bands.

¹⁴¹ *Motorola to Design and Manufacture Equipment for Access Spectrum 700 MHz Guard Band Spectrum*, available at http://www.accessspectrum.com/news_room/press_releases/oct_17_2001.htm.

¹⁴² *Cingular/Alltel Comments* at 18; *CTIA Comments* at 9; *Private Wireless Coalition Comments* at 7.

notes that net gain of 20.5 MHz would virtually satisfy the projected spectrum needs under the 1996 PSWAC Final Report.

In addition, allocation of large contiguous blocks of spectrum at 700 MHz would consolidate the Public Safety operations in a single band. This contiguous spectrum would enable the development of broadband equipment, would permit the deployment of more spectrally efficient infrastructure and equipment, and would increase the capacity of the Public Safety systems.¹⁴³ The contiguous spectrum would also improve interoperability without the need for expensive multi-band radios.¹⁴⁴

C. The Necessity of Congressional or Administrative Action Should Not Deter the FCC from Pursuing a 700 MHz Plan

Nextel argues that the 700 MHz plans would require Congress "to reverse a number of significant legislative actions" and would require the FCC "to initiat[e] and conclud[e] several complex rulemaking proceedings."¹⁴⁵ While some legislative and administrative action may be necessary, Cinergy believes that a 700 MHz plan is a feasible alternative worthy of further attention. In any event, the administrative cost involved in adopting a 700 MHz plan pales in comparison to the costs and disruption potentially caused by Nextel's plan.

1. Congress and the FCC Have Shown an Ability to Act in a Timely Manner to Protect Public Safety Operations

Congress and the FCC have already expressed a willingness to address the modifications necessary to implement a 700 MHz plan. Congress recently passed, and the President signed

¹⁴³ AT&T Comments at 10-12; Boeing Comments at 17-19.

¹⁴⁴ E.g., AT&T Comments at 10-12; Boeing Comments at 17-19.

¹⁴⁵ Comments of Nextel Communications, Inc., WT Docket No. 99-168, 5 (May 3, 2002) [hereinafter *Nextel 700 MHz Comments*].

into law, a statute that postponed indefinitely the auction deadline for the 700 MHz band.¹⁴⁶ In its findings, the bill referred to the current proceeding concerning the resolution of interference in the 800 MHz band. In particular, the bill concluded that "[t]he Commission should not hold the 700 MHz auction before the 800 megahertz interference issues are resolved or a tenable plan has been conceived."¹⁴⁷ The findings also state a willingness to re-examine the commercial allocation in the 700 MHz band because "[c]ircumstances in the telecommunications market have changed dramatically since the auctioning of spectrum in the 700 MHz band was originally mandated by Congress in 1997"¹⁴⁸

In addition to this statute, Congress has previously acted to protect Public Safety communications. For example, congressional action has triggered the FCC's allocation of Public Safety spectrum in the allocations described above in Section II.¹⁴⁹

The FCC has also taken action to accommodate the 700 MHz plans. In response to several petitions, including at least two from Public Safety entities,¹⁵⁰ the FCC postponed the impending auction date for the upper 700 MHz band until January 14, 2003.¹⁵¹ These actions

¹⁴⁶ Auction Reform Act of 2002, H.R. 4560, 107th Cong. §§ 3(a), 4 (2002) (enacted).

¹⁴⁷ *Id.* § 2(4).

¹⁴⁸ *Id.* § 2(1).

¹⁴⁹ Balanced Budget Act § 3004, 47 U.S.C. § 337(a)(2); Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66 § 6001, 107 Stat. 312 (1993); Federal Communications Commission Authorization Act of 1983, Pub. L. No. 98-214 § 9(a), 97 Stat. 1467 (1983).

¹⁵⁰ Letter from Glen Nash, President of APCO International, to Michael Powell, Chairman of the Federal Communications Commission, WT Docket No. 99-168, GN Docket No. 01-74 1 (May 2, 2002); Comments of the National Emergency Number Association, Service Rules for the 746-764 and 776-794 MHz Bands (Television Channels 60-69), WT Docket No. 99-168, GN Docket No. 01-74, DA 02-260, 02-563, 2-3 (May 1, 2002); *see, e.g., Bergen County Police Comments* at 6.

¹⁵¹ Auction of Licenses in the 747-762 and 777-792 MHz Bands (Auction No. 31) Postponed Until January 14, 2003; Auction of Licenses in the 698-746 MHz Band (Auction No. 44) Will

suggest that Congress and the FCC are prepared to effect the legislative and administrative outcomes necessary to implement the 700 MHz plan.

2. The FCC Could Structure the 700 MHz Plan to Comply with the Existing Statutory Provisions

Alternatively, Congress would not necessarily have to reverse the statutory provisions identified by Nextel to enable the FCC to implement a 700 MHz plan.

a. The 700 MHz Plans Would Comply with Section 337(a)(2)'s Commercial Use and Competitive Bidding Requirements

Nextel states that Congress would have to amend sections 337(a)(2) "to re-designate this band as public safety spectrum" and "to permit assignment by some means other than competitive bidding."¹⁵² Although section 337(a)(2) requires the FCC to allocate the remaining 30 MHz of spectrum in the 746-806 MHz band for "commercial use to be assigned by competitive bidding,"¹⁵³ the FCC could implement a 700 MHz plan without contradicting the commercial use and competitive bidding requirements.

The FCC could comply with section 337(a)(2) by auctioning the upper 700 MHz "commercial use" spectrum to commercial licensees. Specifically, the FCC would auction non-exclusive rights to the upper 700 MHz band to auction participants. These non-exclusive rights would resemble the licenses auctioned to the MSS licensees in the 2.1 GHz band because, at the

Proceed as Scheduled, Report No. AUC-02-31-F (Auction No. 31) and AUC-02-44-D (Auction No. 44), *Public Notice*, 17 F.C.C. Rcd. 994 (2002).

¹⁵² *Nextel 700 MHz Comments* at 5.

¹⁵³ 47 U.S.C. § 337(a)(2). The FCC already auctioned 6 MHz of spectrum in the 746-806 MHz band to Guard Band managers. 700 MHz Guard Band Auction Closes; Winning Bidders Announced, Report No. AUC-38-F (Auction No. 38), *Public Notice*, 16 F.C.C. Rcd. 4590 (2001); 700 MHz Guard Band Auction Closes; Winning Bidders Announced, Report No. AUC-33-H (Auction No. 33), *Public Notice*, 15 F.C.C. Rcd. 18026 (2000).

time of the auction, the license would not comprise any particular spectrum.¹⁵⁴ Although the FCC would not auction any particular 700 MHz frequencies, it would associate each non-exclusive right with a specific nationwide spectrum block in the 800 MHz NPSPAC channels. For example, the FCC could auction 6 non-exclusive rights to the 700 MHz commercial spectrum, each of which relates to a nationwide 1 MHz block of the 800 MHz NPSPAC channels. In other words, although nominally bidding on the 700 MHz non-exclusive right, the auction participants would actually bid to use the former NPSPAC spectrum in the 800 MHz band for actual commercial service.

To comply with the commercial use requirement, the FCC would modify the operational rules governing this 30 MHz of spectrum to require the winning bidders, *i.e.*, the commercial licensees, to use this spectrum only for the relocation of Public Safety licensees from the 800 MHz NPSPAC channels. While section 337(a)(2) requires the FCC to auction the upper 700 MHz spectrum for "commercial use," it does not necessarily require licensees to use the spectrum directly to provide a "commercial service." For example, the FCC interpreted section 337(a)(2) to permit Guard Band Managers to lease "commercial use" spectrum "to facilitate all

¹⁵⁴ In re Application of the Boeing Company Concerning Use of the 1990-2025/2165-2200 MHz and Associated Frequency Bands for a Mobile-Satellite System, *Order and Authorization*, 16 F.C.C. Rcd. 13691 ¶ 9 (2001); In re the Establishment of Policies and Rules for the Mobile Satellite Service in the 2 GHz Band; IB Docket No. 99-81, *Report and Order*, 15 F.C.C. Rcd. 16127, 16138 ¶ 16 (2000). If the FCC interprets the statutory directive to require the auction of actual spectrum blocks, as opposed to non-exclusive rights, the FCC could auction these licenses in amounts proportionate to the 800 MHz NPSPAC channels. For example, the FCC could link a particular 5 MHz of "commercial use" spectrum in the upper 700 MHz band with 1 MHz of spectrum in the 800 MHz NPSPAC channels. Alternatively, the FCC could state that each auction winner generally receives 5 MHz of spectrum from the upper 700 MHz band to relocate displaced 800 MHz NPSPAC licensees.

types of spectrum use that are consistent with the technical restrictions."¹⁵⁵ Thus, although the winning bidders would not use this spectrum directly to provide commercial service, they would use it for relocation purposes in order to enable them to provide commercial service at 800 MHz.

The non-exclusive right to use the 700 MHz band for relocation would be accompanied by the right to *require* incumbent Public Safety licensees on the NPSPAC channels to relocate to any vacant frequencies in the 30 MHz of commercial spectrum in the 700 MHz band. This mandatory relocation is consistent with the *Emerging Technologies* procedure, which consists of negotiation and involuntary relocation rules. The winning bidders would have to reimburse the displaced Public Safety licensees completely for their relocation expenses. Thus, the FCC could auction the 700 MHz spectrum for "commercial use" in accordance with sections 337(a)(2) and 309(j)(14)(C), while permitting Public Safety licensees to relocate there under a 700 MHz plan.

The FCC could also permit the *voluntary* relocation to 700 MHz of Public Safety licensees on the interleaved 800 MHz channels. Unlike the mandatory relocation of the Public Safety licensees in the NPSPAC channels through the 700 MHz auction process, however, the commercial licensee could not compel the incumbent Public Safety licensee on an interleaved channel to move and could not relocate the incumbent to the 30 MHz of commercial spectrum in the upper 700 MHz band. The incumbent Public Safety licensee would voluntarily negotiate its relocation to the 24 MHz of 700 MHz Public Safety spectrum or to a Guard Band.¹⁵⁶ After the initial license term, which would give winning bidders ten years to relocate the NPSPAC Public

¹⁵⁵ In re Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *Second Report and Order*, 15 F.C.C. Rcd. 5299 ¶ 27 (2000).

¹⁵⁶ Once the winning bidders have had a sufficient opportunity to relocate incumbent Public Safety systems from the NPSPAC channels, it would be appropriate to open the 30 MHz of commercial spectrum at 700 MHz as a relocation home for Public Safety systems voluntarily relocated from the interleaved channels.

Safety licensees, the FCC could allow use of the 30 MHz of "commercial use" spectrum for relocation of interleaved Public Safety licensees.

By restricting the relocation of the incumbent Public Safety licensees in the interleaved channels, the FCC would ensure that winning bidders for the "commercial use" 700 MHz spectrum receive value for their purchases. Not only would the winning bidders have the right to mandatory relocation, but they could also relocate incumbent Public Safety licensees from the 800 MHz NPSPAC channels without having to compete for limited 700 MHz "commercial use" spectrum with interleaved Public Safety licensees. Thus, the FCC could implement a 700 MHz plan without any modification of section 337(a)(2).

b. The 700 MHz Plans Would Comply with Section 309(j)(8)'s Requirement that the FCC Deposit Auction Proceeds into the Treasury

Nextel also asserts that Congress would have to amend section 309(j)(8) to permit the redirection of the auction proceeds to compensate Public Safety licensees for their relocation to the 700 MHz band.¹⁵⁷ Section 309(j)(8) requires the FCC to deposit "all proceeds from the use of a competitive bidding system . . . in the Treasury"¹⁵⁸ However, the FCC could adopt a 700 MHz plan that would ensure full reimbursement for incumbent 800 MHz Public Safety licensees without a modification of the statute.

The FCC could avoid any revision to section 309(j)(8) by promulgating relocation rules for the 800 MHz NPSPAC channels similar to those adopted in the *Emerging Technologies* proceeding. Specifically, the FCC could require winning bidders to reimburse incumbent licensees for the incumbents' relocation to the 700 MHz band commercial spectrum. The

¹⁵⁷ *Nextel 700 MHz Comments* at 5-6.

¹⁵⁸ 47 U.S.C. § 308(j)(8).

winning bidders could negotiate the reimbursement expenses with the incumbents or could wait until the commencement of the involuntary relocation period. Alternatively, if the auction winner decided not to negotiate immediately, the FCC should grant Public Safety licensees the ability to self-migrate to the 700 MHz band and receive reimbursement from licensees that benefit from their departure.

Because the relocation reimbursement would not come directly from auction proceeds, this plan would not require the revision of section 309(j)(8). Thus, the FCC could implement a 700 MHz plan without Congress having to redirect or appropriate auction proceeds as predicted by Nextel.

c. The 700 MHz Plans Would Comply with Section 309(j)(14)'s Digital Transition Schedule

Finally, Nextel assumed that "Congress would also have to amend the digital television transition schedule that it adopted in 1997."¹⁵⁹ Section 309(j)(14) establishes an expiration date for broadcast licensees, requiring them to cease analog transmissions on December 31, 2006, except in certain circumstances.¹⁶⁰ Congress would not necessarily have to modify the transition schedule because some broadcast licensees may vacate the spectrum earlier than the statutory deadline and because the FCC's licensing procedures leave stations vacant in every market.

In addition, the *Emerging Technologies* rules allow for the gradual relocation of incumbent licensees. These rules would lessen the impact of the continuing presence of incumbent broadcast licensees by permitting incumbent 800 MHz Public Safety licensees to negotiate relocation based on the availability of replacement spectrum. Because of the shortage of desirable spectrum in the 700 MHz band, the FCC would grant 700 MHz spectrum on a first-

¹⁵⁹ *Nextel 700 MHz Comments* at 6.

come, first-served basis. Accordingly, these incumbent Public Safety licensees could self-relocate or negotiate relocation as quickly as necessary to secure available spectrum.

The FCC could set relocation deadlines based on the digital television transition period so incumbent licensees could remain on the 800 MHz NPSPAC channels if replacement spectrum were not available at a particular time. Because the 700 MHz band commercial spectrum provides 30 MHz of spectrum for the relocation of incumbent Public Safety licensees, Cinergy does not foresee any significant difficulty with locating suitable replacement spectrum. Thus, Congress would not have to alter the broadcasters' digital television transition schedule to permit the implementation of the 700 MHz alternative.

VII. THE REBANDING PLANS OUTLINED IN THE COMMENTS WOULD NOT RESOLVE THE INTERFERENCE PROBLEM SATISFACTORILY

Although most commenters favor a technical or market-based solution, a few commenters have proposed complex relocation plans.¹⁶¹ Although each plan has distinguishing characteristics, the proposals basically present variations on the out-of-band and in-band relocation plans outlined in the *NPRM*. As mentioned above in Section V, these plans suffer from fundamental defects that render them unacceptable. Instead of addressing each proposal individually, Cinergy critiques the defects presented by these proposals.

¹⁶⁰ 47 U.S.C. § 309(j)(14).

¹⁶¹ *E.g.*, Comments of State of Maryland Department of Budget and Management, Office of Information Technology 7-16 (May 6, 2002); *Cingular/Alltel Comments* at 16-19; *Private Wireless Coalition Comments* at 6-22; *CTIA Comments* at 7-9; *Pinnacle West Comments* at 11-16; Comments of State of Hawaii, Department of Accounting and General Services, Information and Communication Services Division 2 (May 6, 2002); *District of Columbia Comments* at 16-17; *TRW Comments* at 3; *RadioSoft Comments* at 2-7; Comments of Carl R. Guse 1 (May 6, 2002); *M/A-COM Comments* at 10-16.

A. Rebanding Plans Must Provide Comparable and Adequate Replacement Spectrum

1. The Replacement Spectrum Offered by the Nextel Plan Is Neither Comparable Nor Adequate

The *Nextel White Paper* proposed relocating Business and I/LT incumbents to the 700 MHz Guard Band and the 900 MHz band. An overwhelming majority of commenters, including Cinergy, concluded that these bands are not comparable or adequate replacement spectrum. Public Safety commenters also believe that mandatory relocation to these spectrum bands would unnecessarily burden Business and I/LT licensees, particularly because of the lack of adequate, available, and comparable spectrum.¹⁶² Because of these myriad problems, some commenters accuse Nextel of proposing relocation to these bands in order to force all Business and I/LT licensees to forsake their private systems and take commercial service from Nextel.¹⁶³

- a. The 700 MHz Guard Band Would Not Provide Comparable Replacement Spectrum for Business and I/LT Licensees

Commenters oppose the relocation of Business and I/LT licensees to the 700 MHz Guard Band for a number of reasons. The band provides an insufficient amount of spectrum for incumbent Business and I/LT licensees because Nextel does not possess nationwide spectrum in this band.¹⁶⁴ Although Nextel notes that it possesses spectrum in 92 of the top 100 cities,¹⁶⁵ utilities and other licensees must also operate in rural parts of the country. Nextel claims that it could acquire additional spectrum necessary to relocate incumbent licensees,¹⁶⁶ but it provides

¹⁶² *E.g., Baltimore City Comments* at 3; *District of Columbia Comments* at 4-5; *Gainesville Police Department Comments* at 2.

¹⁶³ *CP&L/TXU Comments* at 5; *CR&T Comments* at 3; *Skitronics RFA Response* at 7.

¹⁶⁴ *Comments of Ad Hoc Wireless Alliance 5* (May 6, 2002) [hereinafter *Ad Hoc Comments*]; *District of Columbia Comments* at 4; *AEP Comments* at 3.

¹⁶⁵ *Nextel Comments* at 45.

¹⁶⁶ *Id.* at 46.

no details on where it could find this spectrum. To the extent Nextel has access to additional spectrum, the simple solution is to require Nextel to relocate its interfering operations to that spectrum.

Nextel also does not adequately explain how Business and I/LT licensees could relocate to the 700 MHz Guard Band in a timely manner because incumbent broadcast licensees will occupy the spectrum until at least December 31, 2006. Nextel even concedes that wide-area or regional systems, such as those operated by utilities, "are most likely to be precluded by existing broadcast UHF television facilities."¹⁶⁷

In addition, Business and I/LT licensees could not relocate to this spectrum in a timely manner because equipment is not currently available.¹⁶⁸ Even when equipment becomes available, many of these licensees would have to replace their entire systems.¹⁶⁹ Finally, the 700 MHz Guard Band spectrum is not comparable to the 800 MHz band because it has different bandwidth, coverage, and technical restrictions that foreclose technological innovation.¹⁷⁰

b. The 900 MHz Band Is Inadequate Replacement Spectrum

Commenters also state that the 900 MHz band would not offer comparable and adequate replacement spectrum for Business and I/LT incumbent licensees. As with the 700 MHz Guard Band, commenters object to Nextel's plan for using the 900 MHz band to relocate Business and I/LT licensees because this band suffers from heavy congestion and Nextel does not possess

¹⁶⁷ *Id.* at 45.

¹⁶⁸ *E.g.*, *Skitronics Comments* at 5-6; *APTA Comments* at 2; *District of Columbia Comments* at 5.

¹⁶⁹ *E.g.*, *Boone Comments* at 2; *Baltimore City Comments* at 3.

¹⁷⁰ *E.g.*, *SCANA Comments* at 35; *Ad Hoc Comments* at 5; *Motient Comments* at 2-3.

nationwide spectrum.¹⁷¹ Although Nextel claims to possess a "running average" of spectrum that would satisfy all displaced incumbent licensees, this average only covers the top 100 markets.¹⁷² Moreover, this "running average" does not demonstrate the actual availability of spectrum in ALL markets where incumbents would be relocated. Thus, the running average formula disguises Nextel's inadequate spectrum holdings instead of illustrating Nextel's ability to relocate displaced incumbent licensees.

The 900 MHz band is also not comparable to the 800 MHz band. Several commenters agree with Cinergy's assessment that the propagation characteristics and bandwidth would make it difficult to relocate Business and I/LT operations. The propagation characteristics would reduce the coverage area by up to 30%, while the different throughput level would decrease data speed.¹⁷³ Moreover, the congested nature of the band would foreclose any future system expansion.¹⁷⁴ Finally, several commenters complain that the transition to 900 MHz would impose substantial costs on incumbents because of the need to replace equipment and duplicate the system for a seamless transition.¹⁷⁵

2. A Suitable Rebanding Plan Must Provide 1:1 Replacement Channels with the Same Functionality, an Orderly and Predictable Relocation Process, and Growth Spectrum for Business and I/LT Licensees

If the FCC were to adopt a plan to resolve the 800 MHz interference problem that involved mandatory rebanding, the plan must assure licensees that replacement spectrum would

¹⁷¹ *E.g., Business Autophones Comments at 2; District of Columbia Comments at 4; Comments of Association of American Railroads 2 (May 6, 2002); SCANA Comments at 35-37.*

¹⁷² *Nextel Comments at 3 n.6, 44-45.*

¹⁷³ *E.g., Harmer Comments at 3; Sid Richardson Comments at 3; Pinnacle West Comments at 20; Motient Comments at 3; Comments of Wiztronics, Inc. 2 (Apr. 11, 2002).*

¹⁷⁴ *E.g., CP&L/TXU Comments at 5.*

be available on a 1:1 basis. Licensees must receive these assurances before having to take any steps to relocate.

In addition to comparable and adequate replacement spectrum, the FCC must ensure that any mandatory relocation process is orderly and predictable from the outset. In particular, the plan must not require the relocation of each system on a piecemeal basis. Instead, a licensee should receive an appropriate amount of time to plan the entirety of its system's relocation in advance. For example, systems with five or more sites should have at least three years to complete the relocation process. Because of this quick transition period, the FCC should also adopt a liberal waiver policy to provide these licensees with additional time when necessary.

To accommodate the foregoing requirements of a suitable relocation plan, the FCC should provide for complete coordination of a licensee's system on new channels as a necessary condition of a party's obligation to relocate. In other words, a licensee facing relocation would first obtain a complete frequency plan for its system on the new channels, with all frequencies accounted for and reserved to the licensee.

Finally, any realignment plan must provide for growth spectrum for Business and I/LT licensees. At a minimum, Business and I/LT channels vacated by Nextel should not be frozen but should remain available for licensing by new Business and I/LT systems or for modifying existing systems.

B. Rebanding Plans Must Offer a Sufficient Funding Mechanism

The funding mechanism is a critical element of any proposed 800 MHz realignment proposal, but many proposals failed to provide an adequate source of guaranteed funding for most 800 MHz licensees.

¹⁷⁵ *Baltimore City Comments* at 3; *AEP Comments* at 10-11.

1. Nextel's Plan Does Not Provide Enough Funding to Relocate Public Safety Licensees

Public Safety commenters complain that the \$500 million conditionally offered under the Nextel Plan "is totally inadequate" to cover the relocation of their systems.¹⁷⁶ These commenters specifically object to Nextel's attempt to limit its liability to \$500 million.¹⁷⁷ They also demand that "any plan to move public safety operations must include provisions for *full* reimbursement of public safety agencies' costs" and must guarantee the funds before the public safety agencies incur any relocation expenses.¹⁷⁸

In the midst of their many objections, however, Public Safety commenters neglect the most damaging aspect of the Nextel Plan. These commenters appear to be under the delusion that Nextel will contribute this \$500 million for the relocation of Public Safety licensees, regardless of the relocation plan adopted by the FCC. Their comments do not appear to recognize that Nextel has conditioned its willingness to protect Public Safety from interference on the wholesale adoption of its plan. Nextel, in its comments, makes clear that Public Safety licensees will receive the \$500 million only if the FCC grants it 10 MHz of 2 GHz MSS spectrum and requires Business, I/LT, and non-cellular SMR licensees to fund their own relocations out of the 800 MHz band.¹⁷⁹ If the FCC does not adopt these controversial aspects of Nextel's Plan, Public Safety licensees receive nothing. Thus, even assuming the FCC accedes to

¹⁷⁶ *Baltimore City Comments* at 1; *see TRW Comments* at 8; *APCO Comments* at 22; *Baltimore County Comments* at 3, 4; *New York State Comments* at 24, 46.

¹⁷⁷ *E.g., New York State Comments* at 24, 46; *APCO Comments* 22; *TRW Comments* at 8.

¹⁷⁸ *APCO Comments* at 22; *see, e.g., New York State Comments* at 24.

¹⁷⁹ *Nextel Comments* at 5-6.

all of Nextel's demands, Public Safety licensees would have to fund between \$600 million and \$1 billion of their own relocation costs, according to estimates provided by Motorola.¹⁸⁰

2. Innocent Licensees Should Not Bear Relocation Costs

The vast majority of commenters agree that the interfering licensee or the federal government should fund any relocation of incumbent licensees. Cinergy, as well as several other commenters, recommended that the FCC apply its existing interference mitigation rules in sections 90.173(b) to require the licensees that cause or experience interference to bear the costs of resolution.¹⁸¹ Public Safety commenters also state that Nextel, as the interfering licensee, "should be prepared to fully fund the relocation of public safety."¹⁸²

While many of these commenters agree that the FCC possesses the authority to require an interfering licensee to fund the reimbursement in accordance with the relocation rules set forth in the *Emerging Technologies* proceeding, Cinergy also notes that reimbursement is consistent with the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999.¹⁸³ In this legislation, Congress supported the basic principle that users dislocated for new commercial services should be made whole.¹⁸⁴

¹⁸⁰ *Motorola Comments* at 24.

¹⁸¹ *E.g.*, *CP&L/TXU Comments* at 7; *DART Comments* at 3; *Brown Paper* at 4; *NRECA Comments* at 11; *Skitronics Comments* at 36; *UTC Comments* at 7.

¹⁸² *New York State Comments* at 24, 46; *see, e.g.*, *Newport News Comments* at 1; *Michigan State Police Comments* at 2; *Fairfax County Comments* at 7 ¶ 27; *IAFC/IMSA Comments* at 11.

¹⁸³ P.L. No. 105-261, 112 Stat. 1920, 2132 (1998).

¹⁸⁴ *Id.* § 1064. The Conference Committee Report stated that "[t]his provision would also require that any entity that purchases any portion of the radio frequency spectrum previously reserved for use by any federal agency, including DOD, and that the Federal agency has relinquished for sale or lease, shall reimburse the Federal agency for the cost incurred by the Federal government to make that portion of the frequency spectrum available." H. REP. NO. 105-736, 105th Cong. 2d Sess. 716 (1998).

The FCC has also previously rejected a self-serving proposal, similar to Nextel's Plan, concerning the relocation of incumbent licensees from the 18 GHz band. In 2000, the FCC reallocated the 18 GHz band to provide separate allocations for satellite and terrestrial users.¹⁸⁵ To protect incumbent terrestrial licensees from interference caused by satellite operators, the FCC adopted the rules from the *Emerging Technologies* proceeding, requiring the satellite operators to relocate incumbents to comparable facilities.¹⁸⁶ By affirming this long-standing reimbursement policy, the FCC rejected an alternative proposal by Teledesic that would have required satellite operators to compensate displaced incumbent licensees only for the unamortized book value of their old equipment.¹⁸⁷

On appeal, the U.S. Court of Appeals for the District of Columbia Circuit affirmed the FCC's decision to provide full reimbursement, holding that the rejection of Teledesic's self-serving proposals was reasonable because they "are patently inconsistent with the Commission's well-explained goals."¹⁸⁸ Because "Teledesic's proposals [were] aimed less at smoothing the way for reallocation than at minimizing its own costs," the D.C. Circuit found that they did not satisfy the FCC's goal of protecting existing terrestrial services.¹⁸⁹ Instead of protecting incumbent terrestrial services, Teledesic's proposals would have put incumbent licensees out of business if they could not afford replacement equipment.¹⁹⁰ In addition, by requiring interfering licensees to reimburse displaced incumbents, the FCC adhered to its policy of permitting

¹⁸⁵ In re Redesignation of the 17.7-17.9 GHz Frequency Band, IB Docket 98-172, RM-9005, RM-9118, *Report and Order*, 15 F.C.C. Rcd. 13430 (2000).

¹⁸⁶ *Id.* ¶ 76.

¹⁸⁷ *Id.* ¶ 78.

¹⁸⁸ *Teledesic LLC v. FCC*, 275 F.3d 75, 84-87 (D.C. Cir. 2001).

¹⁸⁹ *Id.* at 85.

¹⁹⁰ *Id.*

incumbents to continue service with a minimum of disruption.¹⁹¹ Thus, the D.C. Circuit affirmed the FCC's consistent policy of providing full reimbursement for displaced incumbent licensees.¹⁹²

The Nextel Plan is similar to the rejected Teledesic proposal because it would deny full reimbursement to licensees displaced by interference. While Teledesic's proposal would have paid only the book value of the existing equipment, Nextel's Plan is even more repugnant because it would foist all relocation costs on uninvolved licensees. Because of the similarity between the Teledesic proposal and the Nextel Plan, the FCC should affirm its long-standing policy of requiring the interfering licensee to reimburse displaced licensees for comparable facilities.¹⁹³

Not surprisingly, Nextel disagrees with the application of the *Emerging Technologies* relocation rules to the 800 MHz band, arguing that these rules should apply only when the responsible licensee benefited substantially from the relocation.¹⁹⁴ According to Nextel, the Public Safety licensees are the primary beneficiaries, releasing Nextel from any obligation to fund their relocation.¹⁹⁵ Whenever the FCC has applied the *Emerging Technologies* rules, however, it has stated that the reimbursement obligation arose if the new licensee is likely to cause harmful interference to the incumbent licensee operating on the same channels. For example, under the sharing rules, which apply to the 2165-2200 MHz band, MSS licensees do

¹⁹¹ *Id.*

¹⁹² *Id.* at 87.

¹⁹³ Some commenters have suggested the use of federal funds, such as auction revenues or Homeland Security funds. *E.g.*, *UCAN Comments* at 4 ¶ 14; *API Comments* at 14; *Blooston Commenters* at 6; *RCC Consultants Comments* at 7; *Portland Comments* at 10. Such funds would be appropriate sources for relocating or upgrading Public Safety systems.

¹⁹⁴ *Nextel Comments* at 41.

¹⁹⁵ *Id.*

not have to relocate incumbent licensees if they could share the spectrum without any harmful interference.¹⁹⁶ If potential or actual interference exists, and mandatory frequency coordination fails to remedy the problem, then the MSS licensee must reimburse the incumbent licensee for its relocation to another band. Because spectrum sharing is not technologically feasible on the 1850-1910 MHz and 1930-1990 MHz PCS bands and the 1910-1930 MHz UPCS band, licensees in these bands proceed directly to the relocation rules upon the discovery of actual or potential interference.

Thus, the *Emerging Technologies* rules should apply to Nextel's interference with incumbent licensees. Even if the rules did require the licensee that benefited the most to pay for the relocation, Nextel would still bear the reimbursement obligation because it stands to benefit substantially from the resulting contiguous spectrum and the reprieve from financial responsibility for interference resolution. It is ludicrous for Nextel to suggest that Public Safety licensees will enjoy a "benefit" from being relieved of interference from Nextel's operations.

3. Incumbent Licensees Require Guaranteed Relocation Funds

If the FCC were to implement a mandatory rebanding, the plan must ensure that adequate funding is available and assured to relocate their systems.

a. Commenters Express Concern over the Lack of Guaranteed Funds

Many commenters complain about the lack of guaranteed relocation funds. As mentioned above, Public Safety commenters acknowledge Nextel's offer of \$500 million for their relocation expenses, but they rightfully demand guaranteed funds before they incur any

¹⁹⁶ In re 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*, 15 F.C.C. Rcd. 12315, 12341 ¶ 78 (2000).

relocation expenses.¹⁹⁷ These Public Safety licensees assert that they require guaranteed funds because they lack the financing to relocate on their own. But Public Safety licensees are not the only licensees that would suffer grievous economic harm because of an unfunded relocation.

In the event of a mandatory relocation of Business and I/LT licensees, many commenters stated that they would experience devastating consequences. Companies such as Cinergy would incur substantial disruption and cost, and these rebanding proposals would also have an adverse effect on a broad segment of the U.S. economy, forcing many licensees to surrender their radio systems or declare bankruptcy.¹⁹⁸

Other commenters suggest that Nextel's plan is a thinly veiled attempt to increase its subscriber base. Because the Nextel Plan would impose substantial costs on incumbent Business and I/LT licensees that have nothing to do with Public Safety interference, many commenters alleged that the ulterior motive of the proposal is to "eliminate the last vestiges of competition" in the 800 MHz band.¹⁹⁹ In addition to these allegations that Nextel intends to pirate customers, commenters view the plan as retribution for spurning Nextel's advances to supplant their private radio system with commercial service. By increasing the cost of using their own systems, Nextel would essentially compel these licensees to take service from a commercial provider in order to stay in business.²⁰⁰

¹⁹⁷ *E.g.*, *APCO Comments* at 22; *New York State Comments* at 24.

¹⁹⁸ *E.g.*, *Comments of Bosshard Radio Service* 3 (May 6, 2002) [hereinafter *Bosshard Comments*]; *Skitronics RFA Response* at 7-9; *CR&T Comments* at 3; *Comments of Business Autophones Inc.* 2 (May 6, 2002); *Comments of AVR, Inc.* 2 (May 6, 2002); *Island SMR Comments* at 2; *Tilles Joint Commenters* at 23.

¹⁹⁹ *Skitronics RFA Response* at 7; *see, e.g.*, *CR&T Comments* at 3.

²⁰⁰ *CP&L/TXU Comments* at 16.

b. **The FCC Should Adopt a Market-Based Funding Mechanism**

To guarantee the availability of sufficient funds, Cinergy recommends that the FCC combine a market-based plan with a right of relocation for incumbent licensees. For example, the ability of a licensee to acquire contiguous spectrum in the NPSPAC band could be conditioned on its relocating, at its own expense, all incumbents in that band as well as any other incumbents that would be required to relocate to accommodate these transitions to equivalent in-band spectrum. To carry out the relocation, the displacing licensee would have a right to relocate the incumbents but would have to place in escrow an amount sufficient to cover the projected cost of relocation prior to the commencing the relocation process. In the event of bankruptcy, insolvency, or other inability of the displacing licensee to complete the necessary relocations, funds from this escrow may be used to reimburse all reasonable steps to complete the transition. Thus, while incumbents would work directly with the relocating licensee to plan, implement, and fund the relocation, the escrow would provide assurance that the process will be completed with or without the continuing involvement of the relocating licensee.

C. Retuning or Relocation Must Not Impose Substantial Monetary Costs and Delays

Even assuming that retuning or relocation would resolve the Public Safety interference problem, the existing alternatives will likely take several years and cost billions of dollars.

1. **Many Incumbent Licensees Could Not Retune Their Equipment**

The 800 MHz realignment plans would force many incumbent licensees to replace their systems. Although various plans suggest that incumbent licensees could simply retune their equipment, several commenters state that "retuning may not be possible or practical."²⁰¹

Commenters identify a number of practical barriers to retuning, including memory capacity limitations, lack of availability of test lab diagnostic tools, obsolescence of older subscriber units and retuning/reprogramming components, complexities arising from system coordination of software releases, and lack of appropriate documentation.²⁰² Commercial Radio & Television, which recently relocated its system out of the "upper 200" SMR channels, reports that the "process involved much more than just re-programming radios."²⁰³ Licensees not only "must construct a complete new system at the existing repeater site," but they also must address issues related to their site lease, customer retention, and other logistics of a rebanding.²⁰⁴

Cinergy would also suffer from many of these practical problems associated with equipment retuning. In its Comments, Cinergy explained that an operating subsidiary, PSI Energy, "would have to changeout crystals in approximately thirty percent of its system" and make other equipment modifications.²⁰⁵ Cinergy's other operating subsidiary, Cincinnati Gas and Electric, would encounter additional practical difficulties because of its use of a simulcast

²⁰¹ *Motorola Comments* at 22; *see, e.g., CR&T Comments* at 3; *Baltimore City Comments* at 3; *Exelon Comments* at 4; *NRECA Comments* at 6; *Boone Comments* at 2; *Washington Electric Comments* at 4-5; *White County Comments* at 2; *Questar Comments* at 2.

²⁰² *E.g., Motorola Comments* at 22.

²⁰³ *CR&T Comments* at 2.

²⁰⁴ *Id.* at 2-3; *see, e.g., Baltimore City Comments* at 3; *Exelon Comments* at 4.

²⁰⁵ Comments of Cinergy Corporation 26 (May 6, 2002).

radio system.²⁰⁶ These problems would delay the retuning process and cause significant outages of the radio systems.²⁰⁷

Retuning or relocation would create additional problems for licensees that operate their communications systems in connection with critical infrastructure, such as Public Safety and utility licensees. "[T]he 800 MHz band is home to a host of public safety and critical infrastructure industry users that cannot afford any system down-time for equipment modifications."²⁰⁸ Because of the critical nature of their systems, these licensees must construct redundant communications systems and operate the existing and new infrastructures simultaneously for a period of time to ensure a seamless transition to their new spectrum.²⁰⁹ The construction of a duplicate system would raise many practical problems because licensees would require twice as many frequencies, additional facilities, and solutions to existing integration problems.²¹⁰

In addition to these practical problems, these necessary system modifications would also require the expenditure of substantial amounts of money. While many commenters expect their individual costs to run into the millions of dollars, such as Cinergy's projected outlay of approximately \$50 million, Motorola estimates that the Nextel Plan would cost the industry between \$2.8 and \$3.9 billion, and the NAM Plan would cost the industry between \$1.6 billion

²⁰⁶ *Id.* at 27.

²⁰⁷ *Id.* at 26-27.

²⁰⁸ *Motorola Comments* at 23.

²⁰⁹ *E.g., id.; Baltimore City Comments* at 3-4; *E.F. Johnson Comments* at 2; *AEP Comments* at 7.

²¹⁰ *E.g., AEP Comments* at 7-9; *Baltimore City Comments* at 3-4.

and \$2.2 billion.²¹¹ These costs would greatly exceed the amounts necessary to implement technical or market-based solutions.

2. The Transition Period Would Delay the Resolution of Public Safety Interference for Several Years

In addition to the delay caused by the ancillary issues raised in this proceeding, the transition period associated with retuning or relocation would also postpone any interference resolution for Public Safety licensees. Because incumbent licensees would have to replace or duplicate their systems, retuning or relocating would take much longer than Nextel suggests and would delay the resolution of Public Safety interference indefinitely. For example, Texas Utilities reports that its relocation to the 900 MHz band took seven years and cost \$40 million,²¹² greatly exceeding Nextel's projections of between one and three years to relocate *all* licensees in the band.²¹³

Delays will also exist with respect to in-band relocations. As mentioned above, after suffering interference from Nextel's low-site digital system, Harmer Communications recently negotiated a voluntary relocation agreement to relocate from the "upper 200" SMR channels to another part of the 800 MHz band.²¹⁴ More than eighteen months after it started its relocation process, Harmer Communications is "still in the process of collecting and reprogramming units for this migration. The very unfortunate part of this exercise is that the interference issue that we assumed would be reduced through frequency separation is now impacting Harmer's operation

²¹¹ *Motorola Comments* at 24.

²¹² *CP&L/TXU Comments* at 16.

²¹³ *Nextel White Paper* at 47.

²¹⁴ *Harmer Comments* at 2.

on our new exchanged frequencies."²¹⁵ These two situations dealt with individual relocations. If the FCC adopted a plan to reorganize the entire band, it would magnify these problems exponentially.

In addition, relocation of Business and I/LT licensees would take longer than Nextel's Plan predicted because the 700 MHz Guard Band and 900 MHz replacement spectrum are not currently available in many parts of the country. As explained in greater detail above, these bands do not offer immediately available spectrum because of incumbent operations or the lack of equipment. Although Nextel asserts that these are barriers with respect to relocating Public Safety licensees to this band, it inconsistently claimed that it would have no difficulty moving Business and I/LT licensees to this largely unusable, incomparable, and inadequate spectrum.²¹⁶

Thus, because of its experience relocating incumbent licensees out of the "upper 200" channels, and because of its predictions about the incumbency problems in the 700 MHz band, Nextel should be aware that relocating incumbent Business and I/LT licensees from the 800 MHz band will take much longer than one to three years.

D. Rebanding Plans Must Balance Interference Protection with Flexibility to Install Advanced Systems

The Private Wireless Coalition submitted Comments in which it recommended that the FCC limit the introduction of cellular-like system architecture, even though the FCC's long-standing policy is to encourage the development and deployment of new technologies.²¹⁷ Rather than prohibiting "cellular-like" systems below 861 MHz or imposing onerous conditions that

²¹⁵ *Id.*

²¹⁶ *Nextel Comments* at 3-4.

²¹⁷ *Id.* at 14-15.

would effectively prohibit development of advanced systems, the FCC should adopt rules to balance licensees' need for flexibility with adequate protections against interference.

The FCC recently adopted such rules for the Public Safety portion of the 700 MHz band, balancing the protection of Public Safety licensees from interference with the commercial use of other parts of the spectrum. In a *Memorandum Opinion and Order*, the FCC noted that it could set technical limits that would provide Public Safety licensees with maximum protection from interference but that, "at some point, the incremental benefits to protection of public safety from ever higher OOB limits would be outweighed by the adverse effects on the commercial usefulness of the spectrum."²¹⁸ Thus, the FCC concluded that it should adopt technical restrictions that, "while achieving the primary goal of protecting public safety, also strike a reasonable balance between protecting public safety and maintaining the commercial viability of the band."²¹⁹ In the present proceeding, the FCC should allow the same flexibility so that advanced technologies are not unreasonably constrained.

E. The FCC Should Not Relegate Business and I/LT Licensees to Secondary Status in the 800 MHz Band

1. Business and I/LT Licensees Could Not Operate Their Systems on a Secondary Basis

²¹⁸ 700 MHz *Third Memorandum Opinion and Order*, FCC 02-204 ¶ 2 n.7 (quoting *In re Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules*, WT Docket No. 99-168, Carriage of the Transmissions of Digital Broadcast Stations, CS Docket No. 98-120, Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, MM Docket No. 00-39, *First Report and Order*, 15 F.C.C. Rcd. 476, 518-19 (2000)).

²¹⁹ *Id.*

Commenters also reject the proposal in Nextel's *White Paper* that would only allow Business and I/LT licensees to remain in the 800 MHz band on a secondary basis.²²⁰ Secondary status would rob these licensees of regulatory and operational certainty by requiring them to cease operations at a moment's notice. If a licensee could lose its entire investment in a radio system and have its vital communications terminated at the will of a Public Safety licensee, sound business practice would counsel against investing the money in the first place. This precarious position would dissuade these licensees from maintaining or upgrading their systems.

Nextel's proposal is particularly abhorrent to critical infrastructure industries and is characteristic of its indifference, or ignorance, as to the critical communications of public service utilities. In its *NPRM*, the FCC recognized the importance of utility operations, such as those provided by Cinergy, stating that "it would not appear advisable to require a station associated with the restoration of electrical power service to precipitously discontinue service."²²¹ The FCC's position is consistent with the national policy of protecting critical infrastructure industries, which President Bush most recently displayed in the proposal for a Department of Homeland Security.²²² The NTIA echoed this policy when it recommended preferential treatment for utilities with respect to spectrum allocation because of their critical services.²²³ Commenters in this proceeding agree with this national policy and emphasize that relegating

²²⁰ E.g., *NRECA Comments* at 5; *NAM/MRFAC Comments* at 8; *API Comments* at 10-11; *National Rural Telecom Comments* 3; *IAFC/IMSA Comments* at 10; *Comments of ISG Cleveland* 3 (May 6, 2002) [hereinafter *ISG Cleveland, Inc. Comments*]; *Lockheed Martin Comments* at 9-11; *Comments of Exelon Corporation* 5-6 (May 6, 2002) [hereinafter *Exelon Comments*]; *Boone Comments* at 2.

²²¹ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 34.

²²² *Homeland Security Proposal* at 8, 15.

²²³ *NTIA Report* at 3-3.

utility licensees to secondary status would endanger the safe and reliable communications indispensable to these critical operations.²²⁴

Thus, because of the importance of utility and other critical infrastructure industry communications, the imposition of secondary status on these licensees is contrary to the public interest.

2. Public Safety Licensees Oppose the Operation of Business and I/LT Systems on a Secondary Basis

Public Safety commenters also recognize that secondary status is inappropriate and unacceptable for Business and I/LT licensees in the 800 MHz band. While some isolated commenters fear that continued Business and I/LT operation would pose a threat of interference to Public Safety operations (even though they have never caused interference previously),²²⁵ APCO "recognize[s] the potential hardship that this may cause for these licensees, some of whom provide important communications for critical infrastructure industries, [and] . . . would welcome consideration of alternatives that mitigate the impact on non-public safety users"²²⁶

Even though the *PSWAC Final Report* is probably obsolete in terms of its spectrum projections, it would also support the continued primary status of at least incumbent utility operations. The *PSWAC Final Report* emphasized the necessity of shared and joint use utility/Public Safety systems to ensure the availability of sufficient Public Safety spectrum.²²⁷

²²⁴ E.g., *NRECA Comments* at 5; *NAM/MRFAC Comments* at 8; *API Comments* 10-11; *National Rural Telecom Comments* at 3; *IAFC/IMSA Comments* at 10; *ISG Cleveland Comments* at 3; *Lockheed Martin Comment* at 9-11; *Exelon Comments* at 5-6; *Boone Comments* at 3.

²²⁵ E.g., *IAFC/IMSA Comments* at 10; *UCAN Comments* at 4.

²²⁶ *APCO Comments* at 21.

²²⁷ *PSWAC Final Report* at 3; see also In the Matter of Report and Plan for Meeting State and Local Government Public Safety Agency Spectrum Needs through the Year 2010, *Report and*

Ironically, by relegating Business and I/LT licensees to secondary status in the 800 MHz band, the FCC would jeopardize the existence of current and future shared systems between utilities and Public Safety entities, potentially precluding the deployment of spectrally efficient and more advanced technologies. Thus, to provide an adequate alternative for Public Safety licensees, utilities would have to retain primary status on their spectrum.

3. Nextel's Proposed "Co-Primary" Status Is the Equivalent of Secondary Status

Since submitting its *White Paper* in November 2001, Nextel has purported to revise its secondary status proposal.²²⁸ While traditional secondary status permits licensees to operate on the spectrum as long as they do not interfere with a primary licensee, Nextel's new proposal permits Business and I/LT to remain in the 800 MHz band "temporarily until the spectrum is needed for public safety communications."²²⁹ Despite the window-dressing, these two definitions are essentially the same. In each case, the Business and I/LT licensee could use the spectrum only until the primary licensee, *i.e.*, the Public Safety licensee, decided to assert its authority. Thus, Nextel's revision is a distinction without a difference.

To the extent that Nextel's revision contains a distinction, it adds a further condition that would allow a Public Safety licensee to "lease" the Business or I/LT licensee's own spectrum back to it so that licensee could remain on the 800 MHz band.²³⁰ Under Nextel's proposal, the lease-back option could create an illegitimate opportunity for greenmail. Public Safety licensees would have an improper incentive to claim all the spectrum in their service areas, even in areas

Plan, 10 F.C.C. Rcd. 5207, 5245-46 (1995) (encouraging Public Safety wide-area shared systems to meet Public Safety spectrum needs).

²²⁸ *Nextel Comments* at 5 n.11, 46-47.

²²⁹ *Id.* at 5 n.11.

²³⁰ *Id.*

where they do not operate, in order to generate "lease" payments from Business and I/LT licensees. Because the only alternative for the Business or I/LT licensee would be a costly and disruptive relocation, these licensees would have to agree to the Public Safety licensee's terms or take service from a commercial provider, such as Nextel. Thus, Nextel's revised secondary-use proposal is just another attempt by Nextel to have utilities and other critical infrastructure industries vacate their spectrum and/or pay for Nextel's own mistakes.

A far preferable solution would relegate Nextel's operations to secondary status vis-à-vis Public Safety, with the opportunity to "lease" back its operating rights. This would create the proper incentive for Nextel to avoid interference and a source of revenue to upgrade Public Safety systems.

F. Many Retuning or Rebanding Proposals Are Unnecessarily Complicated or Fail to Address the Underlying Interference Problem

In addition to these general problems with the 800 MHz realignment plans, some proposals raise several miscellaneous issues. The Private Wireless Coalition's Comments contain a back-up plan that exemplifies several negative aspects of such proposals.²³¹ Although purportedly a "consensus" plan, the Private Wireless Coalition back-up plan only garners support from a small number of 800 MHz licensees because of its unnecessarily convoluted and interest-driven proposals.

The Private Wireless Coalition back-up plan features several different scenarios, depending on the identity of the licensee, the spectrum band in which it operates, its past relocation history, the type of system architecture it uses, and the source of the interference

²³¹ *Private Wireless Coalition Comments* at 14-22.

problem.²³² Under one of these scenarios, the Private Wireless Coalition proposes a relocation daisy chain, under which licensees relocate to new frequencies as necessitated by the movement of up to two other licensees.²³³ For example, when an EA licensee in the General Category channels decides to move to the NPSPAC channels, it would displace a NPSPAC incumbent. The NPSPAC incumbent would then move to the General Category channels, where it would displace a General Category incumbent.

In addition, the Private Wireless Coalition plan includes carve outs for certain kinds of 800 MHz licensees, such as campus systems and Motient, based either on their resilience to interference or the size of their license holdings.²³⁴ As mentioned above, the Private Wireless Coalition plan would also limit the introduction of cellular-like system architecture, contrary to the FCC's long-standing policy of encouraging the development and deployment of new technologies.²³⁵

The Private Wireless Coalition plan also incorporates an unusual sliding scale reimbursement methodology in contrast to any reimbursement plan previously employed by the FCC.²³⁶ Under this methodology, licensees would receive full reimbursement during the first five years following the order in this proceeding, partial reimbursement under a sliding scale between the fifth and tenth years, and no reimbursement after the tenth year.²³⁷

²³² *Id.*

²³³ *Id.* at 18.

²³⁴ *Id.* at 20-22.

²³⁵ *Id.* at 14-15.

²³⁶ *Id.* at 19.

²³⁷ *Id.*

The Private Wireless Coalition plan also suggests that Business and I/LT licensees should provide a buffer zone between Public Safety and CMRS licensees in the 800 MHz band.²³⁸ This recommendation improperly suggests that Business and I/LT licensees should suffer interference from Nextel and other low-site digital licensees instead of eliminating the interference problem at its source.²³⁹ Thus, this back-up plan defies widespread implementation because it is unwieldy and creates too much confusion.

G. Before Considering Adoption of a Particular Rebanding Plan, the FCC Should Issue a Further Notice of Proposed Rulemaking

As discussed above, a number of commenters have expressed a variety of ways the 800 MHz band could be realigned if the FCC believes that rebanding is necessary to resolve Public Safety interference. Cinergy is also aware that several parties intend to submit additional rebanding proposals in the Reply Comment round of this proceeding. Because these commenters have not formally presented their proposals to the FCC, Cinergy cannot comment directly on the features of these realignment plans.

Because interested parties to this proceeding will not have a full opportunity to examine and comment on the issues raised in these Reply Comments and *ex parte* presentations, and because *any* rebanding plan is likely to entail expenditures of hundreds of millions, if not billions, of dollars over a multi-year period, and require significant system disruptions, the FCC should not adopt a final plan without issuing a Further Notice of Proposed Rulemaking on these issues. The initial *NPRM* in this docket only outlined very general ideas for rebanding. Moreover, most of the rebanding plans that have been submitted so far, and which Cinergy understands will be filed as Reply Comments, are woefully deficient in explaining either the

²³⁸ *Id.* at 15; *TRW Comments* at 5; *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 26 (FCC Plan).

legal basis for the plan or the details of how the plan could be implemented in practice.

Therefore, Cinergy urges adoption of a Further Notice before consideration is given to any particular rebanding plan.

VIII. CONCLUSION

In conclusion, insufficient evidence exists to pursue the rebanding plans outlined in the *NPRM*. The comments do not reveal the existence of a widespread interference problem involving 800 MHz licensees. Because of the lack of evidence in the record, the FCC must undertake a thorough study of the interference problem before imposing a costly and disruptive rebanding. The FCC should also conduct a study, and initiate a separate proceeding, on the current and future Public Safety spectrum needs, in accordance with its standard process.

Because the comments offer no support for a costly and disruptive rebanding, the FCC should adopt an effective and efficient market-based alternative. The technical solutions featured in the market-based alternative have successfully resolved interference in the past and, if the FCC adopts rules clarifying the licensees' responsibilities, could prevent future occurrences of interference. In the alternative, if the FCC decides that rebanding is necessary to resolve interference, Cinergy recommends the provision of additional Public Safety spectrum in the 700 MHz band.

If the FCC proceeds with a rebanding plan other than the 700 MHz plan, it should ensure that it does not suffer from the shortcomings that afflict existing proposals. In particular, the FCC should provide comparable and adequate replacement spectrum, an orderly and predictable relocation process, and growth spectrum for Business and I/LT licensees. In addition, because the existing rebanding plans would impose substantial monetary costs and delays, the FCC

²³⁹ *E.g., NYCTA Comments* at 10.

should provide a sufficient funding mechanism. The FCC should also decline to relegate Business and I/LT licensees to secondary status because of the devastating impact on their critical communications.

In addition, because of the diversity among the plans already presented by the commenters, and the lack of sufficient detail for licensees to understand their true ramifications, the FCC should only consider rebanding after issuing a Further Notice of Proposed Rulemaking on a plan that would best minimize interference with the least disruption to incumbents.

WHEREFORE, THE PREMISES CONSIDERED, Cinergy Corporation respectfully requests that the FCC consider these Reply Comments and proceed in a manner consistent with the views expressed herein.

Respectfully submitted,

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Dated: August 7, 2002

CERTIFICATE OF SERVICE

I, Christine S. Bisio, do hereby certify that on this 7th day of August 2002, I caused a copy of the foregoing "Reply Comments of Cinergy Corporation" to be hand-delivered to each of the following:

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