Before the
Federal Communications Commission
Washington, DC 20554

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

To: The Commission

JOINT REPLY COMMENTS OF CINGULAR WIRELESS LLC AND ALLTEL COMMUNICATIONS, INC.

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SUMMARY

Joint Commenters support and incorporate by reference the Reply Comments submitted contemporaneously herewith by ALLTEL, AT&T Wireless, Cingular, Coupe Communications, First Cellular, Nokia, Southern LINC, and USCCC. In these reply comments, Joint Commenters highlight several conclusions of the Reply Comments, while primarily challenging several unwarranted proposals that would adversely affect the provision of cellular radiotelephone service to the public in the 800 MHz band.

As a preliminary matter, the comment record reveals near unanimous opposition to the Nextel plan. On the other hand, the 700 MHz plan submitted by the Coalition for Constructive Public Safety Interference Solutions, or minor variations thereof, received strong and diverse support in the comment record from members of all interest groups. The Coalition plan represents the best overall public safety solution because it is the only plan which will accomplish all of the Commission's goals, including resolution of interference, increasing public safety spectrum, and minimizing disruptions to existing licensees.

Several parties submitted 800 MHz rebanding proposals in addition to those in the *Notice*. Further rebanding proposals will likely be filed on reply. By itself, however, rebanding 800 MHz will not produce any significant reduction in interference to public safety communications. The Commission must consider any 800 MHz rebanding proposals in light of the Commission's goals in this proceeding. Joint Commenters suggest that a fourth goal should be added: no commercial entity should gain a better spectrum position as a result of this rulemaking without getting such spectrum through auction.

Commenters addressing the source of interference to public safety systems were nearly unanimous that Nextel is the primary interferer, not cellular. As a result, the limits proposed for cellular radiotelephone service operations cannot be justified and should be rejected, particularly given the adverse effect such limits would have on service to the public. These include:

- *Out-of-band Emission Limits*. Several commenters propose to further limit OOBE for all 800 MHz CMRS, including cellular, without citing specific evidence of actual cellular OOBE interference. The proposed limits would require cellular carriers to install unnecessary additional equipment, the cost of which would ultimately be passed on to consumers. This could have the undesired effect of reducing the number of people who can afford and depend on cellular phones. Significantly, installation of such equipment will provide no material benefit to public safety systems.

- *Guard Bands*. Several commenters propose to carve guard bands from currently designed SMR *and* cellular portions of the band and/or decreasing the use of lower cellular/A Block frequencies. Such action would do nothing to address the larger problem of receiver overload and related intermodulation caused by the presence of Nextel operations within the wide public safety receiver passband. At the same time, these proposals would significantly diminish the capacity of cellular providers to the detriment of service to the public.

- *Power and Signal Strength Limits and Minimum Antenna Height Requirements*. A few commenters also suggest the need to develop new 800 MHz CMRS power limits, on-street received signal strength limits, and minimum antenna height above ground level

("AGL") requirements. Applied to cellular carriers, each of these proposals would increase costs and decrease capacity and service quality, while failing to address the major causes of public safety interference – receiver overload and intermodulation.

- *Inverting Transmit and Receive Bands*. One commenter proposes to "enhance" the Nextel and NAM proposals by inverting the base and subscriber unit transmit and receive bands for all cellular architecture systems. To the extent the proposal seeks to include cellular spectrum, the proposed inversion would require a complete change out of cellular equipment and subscriber handsets. No explanation is given as to why such an inversion it is necessary with respect to cellular licensees, or how it would help resolve interference while minimizing disruption.

- *Intermodulation Ratings*. One group of commenters suggests that the Commission mandate intermodulation ratings on mobile radios of greater than 75 dB for the 800 MHz band. No other details are given, nor is support provided for why, on balance, these changes are necessary in the public interest. Joint Commenters presume that this party must be referring to public safety radios. Improving intermodulation ratings of cellular handsets would have no impact on public safety interference.

- *Cost Recovery*. Several commenters suggest that costs for any public safety solution be assessed against all 800 MHz CMRS systems on the basis of mobile units or overall spectrum holdings. As a minor contributor to public safety interference at most, it is unclear what direct benefit, if any, cellular carriers would derive under these proposals. It is clear, however, that agencies may not recover from regulated parties costs for benefits inuring to the public generally and not "directly to the benefit of regulated parties," unless Congress has clearly authorized agencies to do so.

- *Relocation of Cellular Services to 700 MHz*. Hawaii proposes to relocate cellular services to the upper 700 MHz band, with public safety taking their place at 824/869 MHz. No means of cost recovery is suggested; to the contrary, penalty fees would be assessed for slow relocation. This proposal would require replacement of most cellular base station equipment, and *all* customer mobile units would need to be reprogrammed or replaced, making this extremely burdensome for subscribers. The proposal also ignores the fact that cellular is only a minor contributor to public safety interference, and that cellular operators and their subscribers would derive no benefits from the plan but would instead suffer great harm.

Accordingly, given cellular's minimal role in contributing to public safety interference, the success of local case-by-case measures between cellular and public safety systems to date, and the availability of the Coalition's 700 MHz band proposal that meets all of the *Notice*'s goals, the harm these proposals would cause to cellular carriers and their subscribers cannot be justified and they should be rejected.

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JOINT REPLY COMMENTS OF CINGULAR WIRELESS LLC AND ALLTEL COMMUNICATIONS, INC.

Cingular Wireless LLC ("Cingular") and ALLTEL Communications, Inc. ("ALLTEL") (collectively, "Joint Commenters") hereby reply to the comments submitted in response to the Commission's *Notice of Proposed Rulemaking* in the above-captioned proceeding.[1] Joint Commenters support and hereby incorporate by reference the Reply Comments submitted contemporaneously herewith by parties proposing a 700 MHz alternative as the best solution to public safety interference.[2] Among other things, the Reply Comments advocate reallocating the upper 700 MHz band to public safety, and relocating 800 MHz public safety licensees to the 700 MHz band. In the interim, Joint Commenters concur that parties should continue to resolve

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[1] *See Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55, *Notice of Proposed Rulemaking*, FCC 02-81 (rel. Mar. 15, 2002) ("*Notice*"), *summarized*, 67 Fed. Reg. 16351 (Apr. 5, 2002).

[2] *See generally* Reply Comments of ALLTEL Communications, Inc., AT&T Wireless Services, Inc., Cingular Wireless LLC, Coupe Communications, Inc., First Cellular, Nokia Inc., Southern LINC, and United States Cellular Corporation in WT Docket No. 02-55 (filed Aug. 7, 2002) ("Reply Comments").

interference on a case-by-case basis at the local level using techniques set forth in the *Best Practices Guide*.[3] In these reply comments, Joint Commenters highlight several conclusions of the Reply Comments, while primarily challenging several unwarranted proposals which would adversely affect the provision of cellular radiotelephone ("cellular") service to the public in the 800 MHz band.

I. THERE IS NEAR UNANIMOUS OPPOSITION TO THE NEXTEL PROPOSAL AS CONTRARY TO THE PUBLIC INTEREST

The comment record reveals near unanimous opposition to the Nextel plan by representatives of all interested parties, including public safety systems, business and industrial/land transportation ("B/ILT") users, commercial and private wireless licensees, satellite operators and manufacturers.[4] As discussed in more detail in the Reply Comments,[5]

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[3] *Avoiding Interference Between Public Safety Wireless Communications Systems and Commercial Wireless Communications Systems at 800 MHz – A Best Practices Guide*, Dec. 2000 ("*Best Practices Guide*"), available at <http://wireless.fcc.gov/publicsafety>.

[4] *See, e.g.*, Comments of Ad Hoc Wireless Alliance ("Ad Hoc") at 4, 7; Aeronautical Radio, Inc. ("Aeronautical Radio") at 4; American Electric Power Company, Inc. ("American Electric") at 4-6; American Petroleum Institute ("API") at 10-13; Aeronautical Radio, Inc., United Airlines, Inc. ("ARINC *et al*.") at 26; AT&T Wireless ("AT&T") at 18-21; AVR, Inc. ("AVR") at 2-3; City of Baltimore, Maryland ("Baltimore City") at 1-4, 6-7; Cingular Wireless LCC and ALLTEL Communications, Inc. ("Cingular/ALLTEL") at 9-15; Cellular Telecommunications and Internet Association ("CTIA") at 4-6; District of Columbia Office of Chief Technology Officer ("OCTO") at 4-6; Delmarva Power & Light Company & Atlantic City Electric Company ("Delmarva") at 22-24; Duke Energy Corporation ("Duke") at 7-8; E.F. Johnson ("Johnson") at 2-3; Eastman Chemical Company ("Eastman") at 2; Entergy Corporation ("Entergy") at 30-50; Exelon Corporation ("Exelon") at 1-7; FEM Electric Association ("FEM") at 1-2; Fisher Wireless Services, Inc. ("Fisher") at 5-7; Fresno Mobile Radio, Inc. ("Fresno") at 13; Danny Hampton ("Hampton") at 1-2; Harmer Communications ("Harmer") at 3-4; H-D Electric Cooperative ("H-D Electric") at 1-2; Holy Cross Electric Association ("Holy Cross") at 3-5; Intel Corporation ("Intel") at 1-3; Iridium Satellite LLC ("Iridium") at 1; ISG Cleveland Inc. ("ISG") at 3; Jones Onslow Electric Membership Cooperative ("Jones") at 3-5; Kenwood Communications Corporation ("Kenwood") at 10; Lockheed Martin Corporation ("Lockheed") at 11-13; Lubrizol Corp. ("Lubrizol") at 1; Maryland Department of Budget and Management, Office of Information Technology ("MD Dept. BM/OI") at 3-5; Motient Communications, Inc.
(continued on next page)

Joint Commenters agree that this is the case because the Nextel plan is the most disruptive;[6] is the most self serving;[7] is time consuming and costly;[8] and, most importantly, it will not effectively address all forms of interference, particularly receiver overload and/or intermodulation.[9] Accordingly, Nextel's plan "fails to meet the Commission's goals of resolving

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("Motient") at 12-14; New York City Transit Authority ("NYC Transit") at 9-10; Northern Electric Cooperative, Inc. ("Northern Electric") at 1-2; Pinnacle West Capital Corporation ("Pinnacle") at 4, 6; Preferred Communications Systems, Inc. ("Preferred") at 8; Public Safety Improvement Coalition at 2; Questar Corporation ("Questar") at 2; Renville-Sibley Cooperative Power Association") at 2; SCANA Corporation ("SCANA") at 6-7, 21-37; Satellite Industry Association ("SIA") at 3-4; Sid Richardson Energy Services, Inc. ("Sid Richardson") at 2-4; Skitronics, LLC ("Skitronics") at 4-17; South Dakota Rural Electric Association ("SD Rural") at 1-2; South Plains Communications ("South Plains") at 1-2; Southern LINC at 44-57; Supreme Radio Communications ("Supreme") at 4-19; United States Cellular Corporation ("USCC") at 4-5; UTStarcom, Inc. ("UTStarcom") at 1; United Telecom Council ("UTC") at 8-9; Verizon Wireless at 2; Washington Electric Membership Corporation ("Washington Electric") at 3-4; Western Communications, Inc. ("Western") at 1-2; White County Rural Electric Membership Corporation ("White") at 2-4; Wiztronics, Inc. ("Wiztronics") at 2; Xcel Energy Services, Inc. ("Xcel") at 4-5. Even public safety entities expressing some support for Nextel have serious reservations with respect to the hardship it would cause to B/ILT licensees and the limited scope of overall financing. *See, e.g.*, Comments of APCO at 21.

[5] *See* Reply Comments at Section II.A.

[6] *See, e.g.*, Comments of Ad Hoc at 4; American Electric at 4; API at 10-12; Delmarva at 23; ISG at 3; Jones at 3-5; Kenwood at 10; Motient at 13; NYC Transit at 9-10; Northern Electric at 2; Renville at 2; SCANA at 21-25; SIA at 3-4; UTC at 8; Western at 2; White at 2-3.

[7] *See, e.g.*, Comments of American Electric at 5; AT&T at 20-21; Carolina Power and Light Company & TXU Business Services ("Carolina") at 6-8; Cinergy Corporation ("Cinergy") at 31-32; Cingular/ALLTEL at 11-13; Delmarva at 9, 22; Entergy at iv, 25; Exelon at 6; Fisher at 5-7; Fresno at 2; Kenwood at 10; Questar at 2; Skitronics at 4; South Plains at 1; USCC at 4; Verizon Wireless at 2.

[8] *See, e.g.*, Comments of East River Electric Power Cooperative, Inc. ("East River") at 2-3; Fairfax County Department of Information Technology ("Fairfax") at 4; Federated Rural Electric ("Federated") at 2; Fedex at 1-2; ISG at 3; Jones at 3-5; Motient at 13-14; SIA at 4; Southwest Louisiana Electric Membership Corp. ("Southwest Louisiana") at 4; White at 2.

[9] *See, e.g.*, Comments of ARINC *et al*. at 15 & n.8; American Electric at 5; AT&T at 18; Cingular/ALLTEL at 13; CTIA at 4-5; Federated at 2; Fresno at 4; City of Ft. Lauderdale, FL
(continued on next page)

interference to public safety systems while minimizing disruption to existing licensees."[10] It should therefore be rejected without further consideration.

II. REBANDING 800 MHz WILL NOT SIGNIFICANTLY REDUCE INTERFERENCE TO PUBLIC SAFETY COMMUNICATIONS

In addition to the National Association of Manufacturers ("NAM") and FCC 800 MHz rebanding proposals outlined in the *Notice,* several other parties filed proposals that would in one way or another reband 800 MHz.[11] Joint Commenters note that any 800 MHz rebanding proposal must meet the *Notice'*s goals of (1) eliminating interference to public safety systems, (2) assuring sufficient spectrum for critical operations, and (3) minimizing disruption to the existing license structure of the band.

Regarding the first goal of eliminating interference to public safety systems, Joint Commenters point to the technical discussion included in their original comments filed in this proceeding:

> The discussions and technical data presented in this document lead to the clear conclusion that, by itself, *rebanding 800 MHz will not produce any significant reduction in interference to public safety communications.* Rebanding 800 MHz will only result in reduced interference if the manufacturers of public safety radios redesign their systems to take specific advantage of the new allocations.[12]

("Ft. Lauderdale") at 4-5; Lockheed at 12; National Rural Electric Cooperative Association ("NRECA") at 10-11; SCANA at 20-21; TRW/Ohio MARCS Program Office ("TRW") at 1; UTC at 10; Verizon Wireless at 12-13; White at 2.

[10] *See* Comments of Cingular/ALLTEL at 13.

[11] These include proposals submitted by the Private Wireless Coalition, OCTO, M/A-Com, Inc., MD Dept. BM/OI, TRW, and Radiosoft.

[12] Comments of Cingular/ALLTEL, Att. at § 6.

Thus, to be effective, any 800 MHz rebanding proposal must be accompanied by equipment redesign, particularly of the front end of public safety receivers.[13] Otherwise, any such proposal would require significant relocation within the band at considerable expense to moving parties, in contravention of the *Notice*'s goal of minimizing disruption to existing licensees, and would still not solve interference to public safety. In this regard, none of the rebanding proposals discuss how to finance the restructuring.

III. EVALUATION CRITERIA SHOULD INCLUDE A FOURTH GOAL

Joint Commenters suggest that a fourth goal should be added to the three discussed in Section II: ensuring no commercial entity improves its net spectrum position unless additional spectrum is obtained through auction. This goal is warranted in light of Nextel's original proposal – rightly deemed a spectrum grab by a number of parties.[14] Joint Commenters oppose any plan that would give Nextel, the primary causer of interference to public safety, a windfall of spectrum.

Following the Commission's recent release of 800 MHz licensing data to members of Congress,[15] parties were able to examine Nextel's spectrum position in the top 100 markets in the 800 MHz band. Even with this data, however, it continues to be extremely difficult to determine the amount of spectrum Nextel holds that is actually usable. What is clear is that contiguous nationwide spectrum, *e.g.*, 10 MHz of paired spectrum in the unlicensed PCS band

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[13] *See, e.g.*, Comments of API at 5; AT&T at 18; Cingular/ALLTEL at 4-5; Verizon Wireless at 8-9.

[14] *See* Reply Comments at 10 n.37 (citing comments).

[15] *See, e.g.*, Letter from Michael K. Powell, Chairman, FCC to the Honorable W.J. Tauzin, Chairman, Committee on Energy and Commerce, U.S. House of Representatives (July 26, 2002).

and MSS band, is far more valuable than interleaved, disparate, non-nationwide spectrum. It is not a one-for-one relationship.

IV. THE COALITION'S 700 MHz PLAN, ALONG WITH SEVERAL IMMEDIATE STEPS, IS THE ONLY OVERALL SOLUTION

Joint Commenters reiterate their support for the 700 MHz plan submitted by the Coalition for Constructive Public Safety Interference Solutions (the "Coalition Plan") to: (i) reallocate the upper 700 MHz band to public safety, and move 800 MHz public safety licensees to 700 MHz, and (ii) auction vacated 800 MHz public safety spectrum and use auction revenues to help fund public safety relocation and new equipment. That proposal, or minor variations thereof, received strong and diverse support in the comment record from members of all interest groups, including public safety,[16] private wireless,[17] commercial wireless,[18] satellite,[19] and manufacturers.[20] Notably, the 700 MHz band proposal is the only proffered plan which will accomplish all of the Commission's goals, including resolution of interference, increasing public safety spectrum, and

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[16] *See generally, e.g.*, Comments of City of Austin ("Austin") at 1-2; Bergen County Police Department ("Bergen") at 6; Cities of College Station and Bryan, Texas ("College Station") at 2; Madison County East Transit District ("Madison") at 9-10; Snohomish County Emergency Radio System ("Snohomish") at 1, 3.

[17] *See generally, e.g.*, Comments of Ad Hoc at 3 n.3; Aeronautical Radio at 5; API at 6; Blooston, Mordkofsky, Dickens, Duffy & Pendergrast ("Blooston") at 6-10; Business Autophones, Inc. ("Business Autophones") at 2; Coupe Communications, Inc. ("Coupe") at 3; NAM at 4, 6; Private Wireless Coalition at 7-12; South Plains at 2.

[18] *See generally, e.g.,* Comments of AT&T at 10-14; Cingular/ALLTEL at 16-19; CTIA at 5-6; Fresno at 3; Jamestown Communications, Inc. and Midwest Management, Inc. ("Jamestown") at 6; Southern LINC at 27-30.

[19] *See generally, e.g.*, Comments of Boeing Company ("Boeing") at 16-19; SIA at 3; Lockheed at 3-6; Motient at 16-21.

[20] *See, e.g.*, Comments of Kenwood at 11-12; Motorola at 5-6; RCC Consultants, Inc. ("RCC") at 2-5.

minimizing disruptions to existing licensees, as well as the Joint Commenters suggested fourth goal of spectrum neutrality.[21] While the proposal would require legislation,[22] given the broad-based support for this plan and recent legislative action delaying the upper 700 MHz auction until a legislative plan can be developed, it can be accomplished.[23]

In the interim, there are steps that the Commission can take to mitigate interference to public safety. These include continued case-by-case resolution of interference by affected parties at the local level, spectrum swaps, and the use of the *Best Practices Guide.*[24] There is broad recognition that "the deployment of more interference-resistant public safety handheld and mobile receiver units will help alleviate interference."[25] The Commission should also support common standards for interoperability channels, and standards should be examined for gradually updating public safety receivers.[26]

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[21] *See Notice* at ¶ 2.

[22] Specifically, legislation will be necessary to (i) reallocate 30 MHz of spectrum currently allocated for commercial use to public safety (excluding 6 MHz of guard band spectrum already auctioned); (ii) target auction revenues to help fund public safety relocation; and (iii) require broadcasters to exit the upper 700 MHz band by December 31, 2006 or sooner. *See* Comments of Cingular/ALLTEL at 18.

[23] *See* Reply Comments at Section II.D.

[24] *See* Reply Comments at Section II.C.

[25] Comments of Access Spectrum, LLC ("Access Spectrum") at 6 (citing *Notice* at ¶¶ 73-74; *Best Practices Guide* at 12-13); *see also, e.g.*, ARINC *et al*. at 29; CTIA at 7-8; OCTO at 16; Fairfax at 6; Fresno at 11; Ft. Lauderdale at 5; City of New York, New York ("NYC") at 7.

[26] *See* Federal Law Enforcement Wireless Users Group, Petition for Rulemaking to Promote Interoperability and Efficient Use of Allocated Spectrum for Public Safety Agencies and Other Measures to Address Communications Needs through the Year 2010, RM-10432, at 9-13 (filed Dec. 7, 2001).

V. ADDITIONAL PROPOSALS REGARDING CELLULAR OPERATIONS ARE NOT WARRANTED AND WILL HARM SERVICE TO THE PUBLIC

According to nearly all of the Commenters, Nextel is the primary source of interference to public safety systems, not cellular providers.[27] There are several factors which lead to this conclusion, as discussed further in the Reply Comments.[28] First, Nextel's location in the interleaved spectrum results in a greater likelihood of out-of-band emissions, particularly given the engineering decisions Nextel has made in the construction and design of its network.[29] Second, while cellular channels are encompassed within only a fraction of the passband of public safety handsets, *all* of Nextel's channels are encompassed within the passband.[30] Third, whereas cellular base stations utilize dynamic power control to adjust power as needed, Nextel's base stations transmit at full power regardless of whether the channels are in use.[31] As one former Nextel employee explains:

> [M]any technical shortcuts were taken when the [Nextel] sites were constructed. . . . Cavity combiners were replaced with hybrid

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[27] *See, e.g.*, Comments of Ad Hoc at 7; American Water at 2; ARINC *et al*. at 26 n.37; AT&T at 6; AVR at 2-3; Baltimore City at 2; Baltimore County Office of Information Technology ("Baltimore County") at 3; Boeing at 8; Carolina at 6; Cascade Two Way Radio ("Cascade") at 2; Cinergy at 31; Cingular/ALLTEL at 2; Commercial Radio and Television, Inc. ("Commercial Radio") at 3; Consumer Energy Company ("Consumer Energy") at 9-10; Delmarva at 10, 22; Entergy at 11, 25; Exelon at 7; Ft. Lauderdale at 2; King County Information and Telecommunications Services Division ("King") at 2; NAM at 2; Preferred at 2, 7; SCANA at 9; Skitronics at 21; South Plains at 1; Southern LINC at 58; Supreme at 4; Verizon Wireless at 2*; see also* Comments of Duke at 6-7.

[28] *See* Reply Comments at Section I.

[29] *See, e.g*., Comments of Fairfax at 3; *see* Comments of AT&T at 6; Kenwood at 5-6.

[30] *See, e.g*., Comments of AT&T at 6.

[31] *See, e.g*., *id*.; Fairfax at 4; *see also* Comments of City of Portland, Oregon ("Portland") at 2-7.

> combiners which allowed the addition of more channels at a given site . . . . Unfortunately, this change along with several others caused the noise floor to increase dramatically at most sites. This is one of the major causes of interference to public safety . . . .[32]

Notwithstanding efforts by Nextel to suggest a heightened contribution by cellular providers to public safety interference (thereby downplaying its own role),[33] the record reflects that instances of cellular interference have been isolated.[34] Thus, as the City of Baltimore stated, the extent of an interference problem in Baltimore "may have been overstated by commercial parties [*e.g.*, Nextel] who see an opportunity to gain valuable blocks of spectrum."[35] Commenting parties also note that cellular carriers have willingly and successfully worked with local communities to resolve most instances of interference, which appears not to be the case with Nextel.[36] As a result, the more restrictive limits proposed for cellular operations above 824/869 MHz and discussed below cannot be justified, particularly given the adverse effect such limits would have on service to the public.

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[32] Comments of Hampton at 1-2.

[33] *See, e.g.*, Nextel Comments at 3-4, 6, 9-13; *see also Notice* at ¶ 14.

[34] *See, e.g.*, Comments of AT&T at 6-7; Cingular/ALLTEL at 2-3 & n.3; CTIA at 6; USCC at 6-7; Verizon Wireless at 2, 6-8; *see also* Comments of ARINC *et al*. at 15; C & M Communications, Inc. ("C & M") at 4-5; Ft. Lauderdale at 2.

[35] Comments of Baltimore City at 6.

[36] *See, e.g.*, Comments of C & M at 4-5 (noting that "cellular carriers have demonstrated a great willingness to resolve each instance on a case-by-case basis . . . . In stark contrast, Nextel has thrown up its hands and suggests a radical idea that would require the expenditure of billions of dollars by all to relieve that interference for which it has shown itself unwilling to take responsibility . . . .").

A. More Stringent Out-of-Band Emission Limits

Pinnacle West Capital Corporation ("Pinnacle") suggests that the FCC should impose more stringent out-of-band emission ("OOBE") limits for 800 MHz CMRS carriers, akin to the standard proposed by the Telecommunications Industry Association Private Radio Section ("TIA PRS") for the 700 MHz band.[37] Similarly, OCTO asks the FCC to direct "CMRS licensees" to add filters at their base station transmitters that would limit emissions to a level of "85 dB minimum attenuation of the CMRS carrier channel below the Public Safety desired in-band carrier level," and Ameren Corporation ("Ameren") suggests new "'out of mask' radiation limits for all 800 MHz users" that require "100 dB attenuation of all emissions outside of the assigned channel."[38]

Pinnacle, the OCTO and Ameren thus propose to limit *all* 800 MHz CMRS OOBE, including cellular, without citing specific evidence of actual cellular OOBE interference.[39] If applied to cellular, the proposed limits would require A Block cellular carriers to install unnecessary additional equipment at their cell sites, at a cost Pinnacle admits "is not cheap."[40]

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[37] *See* Comments of Pinnacle at 6 & App. A at 12; *see also* Comments of Public Safety Improvement Coalition at 7 (District of Columbia); *see also Notice* at ¶ 74.

[38] Comments of OCTO at 16; *see also* Comments of Ameren at 5; American Electric at 16-17.

[39] *See* Comments of Pinnacle, App. A at 12; OCTO at 16; Ameren at 5. As Cingular noted in its response to TIA PRS' 700 MHz out-of-band emission proposal, "Cingular is unaware of any interference problem that has been caused to [public safety ("PS")] radios due to OOBE from a cellular base station (All known interference cases are due to overload by [in-band emissions] from ESMR sites or poor filter rejection of the cellular A band by the PS receivers, or by [intermodulation] products created inside the PS radios.)." *See Ex Parte* Letter from Brian F. Fontes, Vice President-Federal Relations, Cingular to Magalie R. Salas, Secretary, FCC in WT Docket No. 99-168 at 2 (Jan. 23, 2002) ("*January 23rd Ex Parte*").

[40] *See*, Pinnacle, App. A at 13.

These costs would ultimately be passed on to consumers, which could have the undesired effect of reducing the number of people who can afford and depend on cellular phones.[41] These limits would also be harmful "to the use of wideband technologies that will support the emergence of broadband data services."[42]

Moreover, the installation of such equipment by cellular carriers will ultimately provide no benefit to public safety systems. Interference to public safety is primarily related to the wide front-end design of public safety receivers that provides little rejection of emissions from the cellular A band – not the OOBE performance of the cellular base station transmitters.[43] One public safety commenter agrees that regardless of any OOBE limit, interference "would still be there" although "potentially to a lesser degree."[44]

Accordingly, given cellular's minimal contribution to public safety interference, the success of local case-by-case measures between cellular and public safety systems, and the lack

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[41] *See January 23rd Ex Parte* at 3.

[42] Comments of Verizon Wireless at 11-12.

[43] *See January 23rd Ex Parte* at 1; Comments of Cingular/ALLTEL at 4-5; *see also* Comments of Verizon at 11 ("[I]nterference from out-of-band emissions is not a significant contributor to the problems experienced by public safety, at least not with regard to cellular operations."); *id*. at 5-6 (noting that OOBE is not a significant contributor to public safety interference, but to the extent it is a problem it is more likely to occur in the bands where Nextel and public safety are interleaved).

[44] *See* Comments of Florida State Technology Office, Bureau of Wireless Communications ("Florida") at 7.

of a benefit to public safety, the costs of these OOBE proposals cannot be justified with respect to 800 MHz cellular operations.[45]

B. Use of Guard Bands

The American Water Works Association ("AWWA") proposes to carve guard bands from currently designated SMR *and* cellular portions of the band.[46] Florida likewise suggests putting in a guard band above the NPSPAC channels (which borders the cellular A Block frequencies) and/or decreasing the use of lower cellular A Block frequencies.[47] Such action may impact isolated instances of cellular transmitter sideband noise, if any,[48] but it would do nothing to address the larger problem of receiver overload and related intermodulation caused by the presence of Nextel operations within the wide public safety receiver passband. Desensitization and intermodulation interference "will not be reduced simply by increasing the frequency separation between desired and interfering signals" and will occur "whenever the public safety portable radio receives strong signals within its passband."[49]

At the same time, both of these proposals would significantly diminish the capacity of cellular providers to the detriment of service to the public. As the Commission is well aware,

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[45] *See* Comments of Verizon Wireless at 11 ("[T]he imposition of more stringent out-of-band emission limits on cellular transmitters would not produce any significant benefits, while imposing substantial unnecessary burdens on commercial licensees.").

[46] *See* Comments of AWWA at 3.

[47] *See* Comments of Florida at 1-2, 8.

[48] *See, e.g.*, Comments of AT&T at 18; Cingular/ALLTEL at 4-6; Southern LINC at 12-13; *see also* Comments of Verizon Wireless at 4-5. Joint Commenters are unaware of any instances where OOBE from cellular carriers are causing interference to NPSPAC operations.

[49] Comments of Cingular/ALLTEL, Att. A at 3, § 2.2.

cellular carriers and others are facing a spectrum shortage and cannot afford to give up valuable spectrum.[50] Again, these proposals are extreme solutions for isolated instances of interference; they do nothing to address the major causes of interference to public safety systems; and they cannot be justified when less harmful, case-by-case resolution has been effective.

C. New Power and Signal Strength Limits and Minimum Antenna Height Requirements

Several commenters also suggest the need to develop new 800 MHz CMRS power limits,[51] on-street received signal strength limits,[52] and minimum antenna height above ground level ("AGL") requirements.[53] As noted above, cellular is a minor contributor to public safety interference, so these proposals would not solve the overriding causes of interference to public safety operations. To the contrary, cellular carriers would be required to increase the number of cell sites to avoid a degradation in service to the pubic – a costly and difficult proposition given current local land use restrictions affecting the construction and installation of new cellular

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[50] As the FCC has recognized, "[t]he introduction of wireless Internet, advanced data, and 3G services, as well as global competition within these services, has created a shortage of suitable available spectrum," and "demand for spectrum has increased dramatically as a result of explosive growth in wireless communications." *Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licensees,* WT Docket No. 97-82, *Order on Reconsideration*, 16 F.C.C.R. 1343, 1349 (2001); *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, ET Docket No. 00-258, *Notice of Proposed Rule Making and Order*, 16 F.C.C.R. 596, ¶ 2 (2001) (*citing Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, Policy Statement*, 14 F.C.C.R. 19868, 598 (1999)).

[51] *See* Comments of AWWA at 3.

[52] *See* Comments of American Electric at 16; Florida at 8.

[53] *See* Comments of American Electric at 16.

facilities. These proposals may be justified, however, in the case of Nextel, given its overwhelming contribution to public safety interference.

D. Inverting Transmit and Receive Bands

The City of Austin proposes to "enhance" the Nextel and NAM proposals by "inverting the base and subscriber unit transmit and receive bands for all cellular architecture systems."[54] The text of the proposal appears to focus on increasing the degree of separation between public safety and digital SMR base transmitters under the Nextel or NAM proposal, rather than the cellular spectrum that would be significantly separated from public safety under either proposal.

To the extent the proposal seeks to include cellular spectrum, the suggested inversion would require a complete flash-cut change out of all cellular subscriber handsets; retuning and/or replacing every cellular base station transmitter *and* receiver; and loss of service while systems are tested, reconfigured and coordinated – an extremely expensive and time-consuming undertaking. Because no explanation is given as to why such an inversion is necessary with respect to cellular licensees, or how it would help resolve public safety interference while minimizing disruption, it should be rejected. Furthermore, such an inversion would cause a new source of interference between Nextel and public safety handsets.

E. Mandated Intermodulation Ratings

One group of commenters suggests that the Commission mandate intermodulation ratings on mobile radios of greater than 75 dB for the 800 MHz band.[55] No other details are given.

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[54] Comments of Austin at 3.

[55] *See* Comments of ARINC *et al*. at 30.

Joint Commenters believe that these parties must be referring to public safety radios, because the imposition of such ratings on cellular radios would have no impact on interference.

F. Contributions Based on Mobile Units or Spectrum Holdings

Several commenters made suggestions regarding cost recovery that are blatantly unfair to cellular carriers, and outside the Commission's funding prerogatives, and should be rejected. For example, Fresno suggests that a per mobile unit fee be assessed "on all licensees . . . of 800 MHz CMRS systems employing interconnected, digital operations under geographic licensing, including ESMR, cellular or wide-area 800 MHz authorizations," regardless of the contribution (if any) these entities make to the interference problem.[56] OCTO similarly contends that costs of any proposal should be funded "by all CMRS operators in the band" on the basis of fees proportional to CMRS carriers' national spectrum holdings, which it claims will make actual per operator costs "minimal in comparison to the eventual benefits to the public."[57]

Despite statements that such proposals place burdens "on the responsible parties" and "do[] not create an economic burden for those operators who are not the source of the problem,"[58] these proposals bear no relation to the proportion of interference the so-called "responsible parties" contribute. As noted repeatedly above, instances of interference caused by cellular A Block carriers (which operate immediately above the NPSPAC frequencies) are isolated, and Joint Commenters are unaware of any instances where non-adjacent cellular Block B carriers have caused interference to public safety systems. It is therefore unclear what direct

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[56] Comments of Fresno at 8.

[57] *See* Comments of OCTO at 11.

[58] Comments of Fresno at 10.

benefit, if any, cellular carriers would derive under these proposals. Rather, "the primary beneficiary . . . is obviously the general public," according to OCTO.[59] It is clear, however, that "[a]gencies may not recover from regulated parties costs for benefits inuring to the public generally and not 'directly to the benefit of regulated parties,' unless Congress has clearly authorized agencies to do so."[60] For this reason, the Commission may not implement these cost recovery proposals with respect to cellular licensees.

G. Relocation of Cellular Services to 700 MHz

Finally, the Hawaii Department of Accounting and ISCD ("Hawaii") proposes to relocate "next generation cellular services to the 'upper' 700 MHz band."[61] The unimplemented "Public Safety 700 MHz" band would then be relocated to 824/869 MHz.[62] Hawaii proposes that the Commission provide this new spectrum "at zero cost" if cellular licensees move quickly, with a "rapidly increasing fee" to apply thereafter if cellular incumbents fail to relocate within specified deadlines.[63] No mention is made of the overall cost to carriers and their subscribers, nor is there any discussion of where the funds would come from – only a penalty for slow relocation is

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[59] Comments of OCTO at 11.

[60] Cingular/ALLTEL Comments at 14-15 & n.35 (quoting *Skinner v. Mid American Pipeline*, 490 U.S. 212, 223 (1989); citing *National Cable Television Assn., Inc. v. United States*, 415 U.S. 336, 342-43 (1974); *FPC v. New England Power Co*., 415 U.S. 345 (1974); *FEA v. Algonquin SNG, Inc*., 426 U.S. 548, 560 n.10 (1976)).

[61] *See* Comments of Hawaii at 1-2. A similar suggestion is made with respect to moving Nextel out of the band entirely to the 1990/2165 MHz bands. *Id*. at 2.

[62] *See id*. at 2.

[63] *Id*.

discussed. According to Hawaii, its plan "results in substantial savings when compared with other plans."[64]

Hawaii's proposal completely contravenes the Commission's goal of minimizing disruption to existing licensees. It would require replacement of most cellular base station equipment, and *all* customer mobile units, including dual band PCS mobile units, would need to be replaced, making this extremely burdensome for subscribers. No means of cost recovery is even suggested; to the contrary, penalty fees would be assessed. The proposal also ignores the fact that cellular is only a minor contributor to public safety interference, and that cellular operators and their subscribers would derive no benefits from the plan but would instead suffer great harm. This result is unjustified and completely unwarranted when a plan exists to satisfy all of the Commission's goals – the 700 MHz Coalition Plan supported by Joint Commenters – and is beneficial to all involved. While that plan would require public safety relocation to the 700 MHz band, it provides for the use of auction revenues to help fund that relocation and to acquire new equipment. It also provides numerous benefits to public safety, *e.g.*, resolution of interference, additional spectrum, greater interoperability. For all these reasons, the Hawaii proposal cannot be justified and should be rejected.

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[64] *Id*.

CONCLUSION

For the foregoing reasons, the Commission should adopt the rules and policies expressed herein and in the underlying Joint Comments of Cingular and ALLTEL.

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