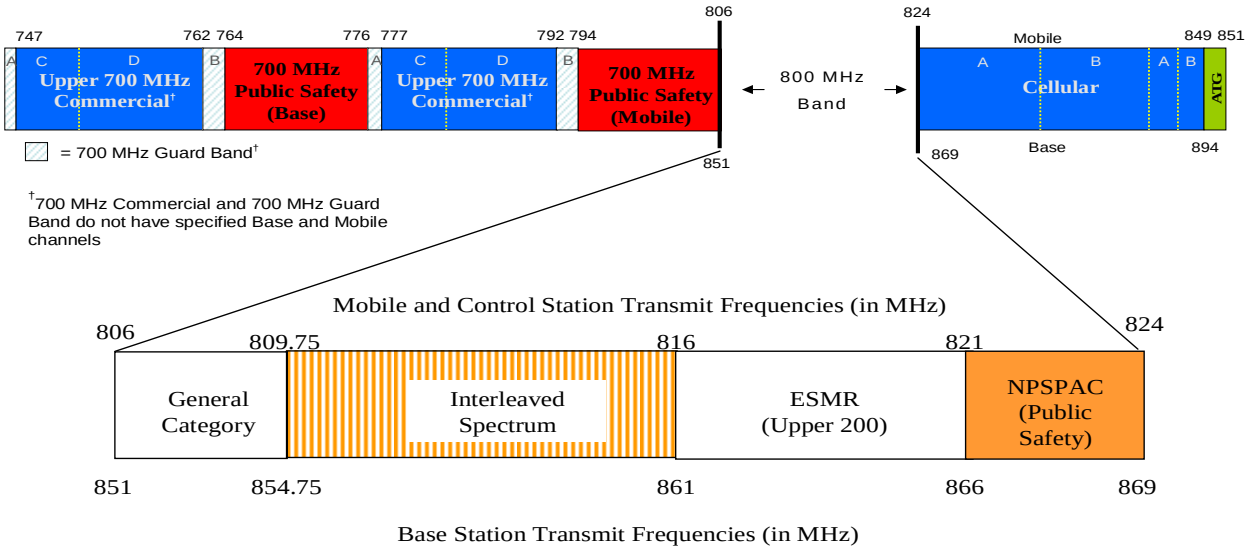
HOW TO PROTECT YOUR PUBLIC SAFETY DEPARTMENTS' FIRST RESPONDERS CRITICAL COMMUNICATIONS: THE NEW FCC ORDER REGARDING THE 800 MHZ BAND

Imagine a bank robbery in progress, two suspects heavily armed with high-powered automatic rifles, one police officer is down and critically wounded and another officer is pinned down behind his cruiser. The second officer calls for help but is unable to get assistance because of radio interference. As a result of this radio interference, the officer is unable to call for back up and one officer is ultimately killed. Unfortunately, this is not fiction, it=s true. In 1997, John Sowa, an Atlanta police officer was killed after his partner officer Patricia Cocciolone says she tried to call for help and her radio failed to work.[1]

HISTORY: HOW DID THIS HAPPEN?

The 800 MHz band is currently configured as follows[2]:



General Category -7.5 MHz
150 Channels
Licensed by EA Blocks of 25 channels (SMR)
Some Incumbent Operators Remain

ESMR/Upper 200 – 10 MHz
200 Channels
Licensed by EA
Non EA incumbents are currently undergoing mandatory relocation

NPSPAC - 6 MHz
225 Channels @ 12.5 kHz spacing
5 Channels @ 25 kHz spacing
5 Mutual Aid Channels

Interleaved Spectrum -12.5 MHz
250 Channels
80 SMR Channels
(Licensed by EA, Some Incumbent Operators Remain)
70 Public Safety Channels
50 Business Channels
50 Industrial Land Transportation Channels

[1] *See* "Cell Towers Causing 'Dead Spots' in Police/Fire Radio Coverage" at http://www.newsmax.com

[2] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55), at paragraph 21.

For at least twenty years, the Federal Communications Commission (AFCC@) has been receiving reports of interference to police, fire, rescue teams and emergency response personnel ("Public Safety") radio communications in the 800 MHz band resulting from the operation of Commercial Mobile Radio Service (CMRS) providers, such as Nextel Communications.[3] Unfortunately, the FCC had not put a priority on protecting our first responders until the September 11, 2001 terrorist attacks. However, the FCC has finally turned its attention to protecting the "saving lives spectrum" by addressing the interference problem through their proposed plan outlined in the FCC's *Report and Order* (FCC 04-168), which was released on August 6, 2004. The Order outlines a three year plan which proposes to address the 800 MHz interference issue. In the interim, Public Safety departments' first responders continue to be at risk.

Pursuant to Section 303(c) of the Communications Act of 1934, one of the primary missions of the FCC is to regulate frequencies to avoid interference between users.[4] However, the FCC failed to conduct this basic function of frequency coordination and was slow to recognize the extent of the radio interference problem.

The origin of the interference problem goes back to the 1970's and 1980's when the FCC was dividing up the 800 MHz band to accommodate Public Safety, businesses specialized in mobile radio such as taxi cabs and other cellular interests. In the mid 1970=s the FCC first designed the spectrum in the 806-947 MHz band for both cellular systems and land mobile operations. Subsequently, in the early 1980=s, the FCC released the reserve spectrum and established the 800 MHz band which is now shared by Public Safety, Business/Industrial Land Transportation (AB/ILT@), Specialized Mobile Radio (ASMR@) and Cellular Radiotelephone (ACellular@) systems.[5] In 1986, the FCC designated six megahertz of spectrum at 821-824 MHz/866-869 MHz for Public Safety use and issued rules for the new Public Safety spectrum (ANPSPAC Band@).[6] Subsequently, local and state-wide 800 MHz band Public Safety systems were implemented using the NPSPAC Band.[7] Thus, today the upper portion of the 800 MHz

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[3] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55), at paragraph 1.

[4] *See* The Communications Act of 1934 as amended, 47 USC Section 303.

[5] *See* Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz and Amendment of Parts 2, 18, 21, 73, 74, 89, 91, and 93 of the Rules Relative to Operations in the Land Mobile Service Between 806 and 960 MHz, Docket No. 18262, *First Report and Order and Second Notice of Inquiry*, 19 Rad. Reg. 2d (P&F) 1663 (1970).

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

[7] *See, e.g.*, State of Ohio, *Memorandum Opinion and Order*, 17 FCC Rcd 439 (WTB, PS&PWD 2002); State of Florida, *Memorandum Opinion and Order*, 16 FCC Rcd 2174 (WTB 2001); Commonwealth of Pennsylvania and GPU Energy, *Order*, 14 FCC Rcd 14029 (WTB, PS&PWD 1999); New Jersey Transit Authority, *Order*, 14 FCC Rcd 4334 (WTB 1999); State of South Carolina and Scana Communications, Inc., *Order*, 13 FCC Rcd 8787 (WTB 1997); State of Florida, *Order*, 12 FCC Rcd 11567 (WTB 1997); Seminole County, Florida, *Order*, 11 FCC Rcd 4105 (WTB 1996).

band is occupied by Cellular licensees, which is adjacent to Public Safety communications systems.

Unfortunately, cellular and SMR frequencies are too close to the Public Safety frequencies. As a result, more often than not, there is interference surrounding the base stations operated by either the cellular licensees or advanced SMRs using digital, cellular-like network architecture.[8] Nextel holds licenses for more than 18 MHz of this spectrum. As of November, 2001, twenty-five metropolitan areas had experienced this type of interference, often near multiple base stations. The amount of interference today is much greater and spreads across the country.[9]

The interference is caused by an incompatible mix of two types of communications systems: cellular-architecture multi-cell systems, which is used by Enhanced Specialized Mobile Radio (AESMR@) and cellular telephone licensees and high-site non-cellular systems, used by Public Safety, private wireless, and some SMR licensees.[10]

After receiving many complaints regarding interference, the FCC finally engaged and brought together CMRS providers, SMR providers and the Association of Public-Safety Communications Officials-International, Inc., to discuss the problem of interference between commercial mobile and Public Safety radio networks. Ultimately, the FCC directed all of the parties to work together and share the responsibility for identifying the cause of the interference, identify mitigating alternatives and develop a joint plan and technical solution to prevent the interference. The result of these consultations was a report issued in December 2000, entitled ABest Practices Guide: Avoiding Interference Between Public Safety Wireless Communications Systems and Commercial Wireless Communications Systems at 800 MHz@ ("the Guide@). The Guide set out a broad overview of practices that can be used in identifying and alleviating interference between Public Safety systems and commercial systems.[11]

In November 2001, Nextel Communications filed a White Paper to the FCC entitled AEliminating CMRS-Public Safety Interference in the 800 MHz Band and Allocating Additional Spectrum to Meet Critical Public Safety Communications Needs.@[12] This proposal urged the FCC to implement a solution to realign the 800 MHz spectrum to relocate Public Safety and CMRS systems to separate spectrums, thereby making additional spectrum available for Public Safety services and reducing interference to Public Safety communications from the operations of CMRS systems.[13] Furthermore, Nextel proposed to also relinquish its 700 MHz and 900 MHz

[8] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55), at paragraph 171.

[9] *Id*. at 5.

[10] *Id*. at 2.

[11] *Id*. at 61.

[12] *Id*. at 61.

[13] *See generally* White Paper.

band spectrum rights.[14] As a result Nextel proposed to receive a nationwide allotment of 10 megahertz of spectrum in the 2.1 GHz band.[15] While this report represented a major step forward by clearly identifying the frequency allocation issues and a proposed frequency fix, it failed to adequately address the impact on state and local government and provide adequate financial resources for them to respond. Instead, it focused on Nextel receiving what critics have called Aa gold mine@ of frequencies at no cost.

THE FCC'S SOLUTION: A CRITICAL PLAN FOR LOCAL GOVERNMENTS

On August 6, 2004, the FCC released a plan to resolve the ongoing problem of interference to public safety radio systems operating in the 800 MHz band. The 251 page Report and Order outlines the details of the band reconfiguration and transition process, proposing both a short term and long term solution. This proposed rebanding process is extremely complex, since throughout the United States, all police radios and similar equipment which operate in the 821-824/866-869 band will need to be retuned or replaced by Nextel. Thus, it is imperative that local governments protect their rights to ensure that comparable facilities are received and that municipalities and counties are reimbursed for all costs.

Short Term Objective: Abatement of Interference

In the short term, the FCC will implement interference abatement measures and Enhanced Best Practices. Specifically, a new objective technical standard is adopted to determine whether a licensee is entitled to interference protection. "Unacceptable interference" is defined by the FCC as follows:

> Unacceptable interference occurs when the signals from a cellular architecture station or stations, cause the carrier-to-noise plus interference ratio of a radio meeting TIA-equivalent Class A standards to degrade below 20 dB in an area in which the median measured received signal power of the desired signal is equal to or greater than -104 dBm for mobile units or -101 dBm for portable units. In the case of data radios, unacceptable interference occurs when the received signal power criteria, above, are met and the bit error rate of the radio exceeds the value specified by the radio's manufacturer for reliable operations.[16]

Additionally, Licensees must provide prior notification for the construction of new cell sites and cell site modifications. Furthermore, as of the effective date of the FCC's Report & Order, ESMR and cellular licensees are responsible for abating unacceptable interference at their own expense. Moreover, in order to promptly receive notification of interference complaints from non-cellular 800 MHz licensees, licensees operating systems in or adjacent to the 800 MHz band are required to establish standardized reporting procedures so that licensees will have one

[14] *Id*. at 28-30.
[15] *Id.* at 8.
[16] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55), at paragraph 19.

point of contact.[17]

Licensees are expected to respond to the initial notification of interference within twenty-four hours for Public Safety or CII licensees and within forty-eight hours for other non-cellular 800 MHz licensees. Where the interference creates a clear and imminent danger to life or property, the FCC will provide Public Safety licensees a "safety valve." In this situation, the interference source will have to immediately discontinue operation, until corrective measures can be identified and applied. The Enforcement Bureau will be contacted where the claim of imminent and present danger is valid.[18]

Long Term Objective: Band Reconfiguration

In the long term, to successfully address the interference problem, the FCC plans to reconfigure the 800 MHz band. Specifically, Public Safety systems will be separated from ESMR and cellular, thereby minimizing interference in the 800 MHz band.[19]

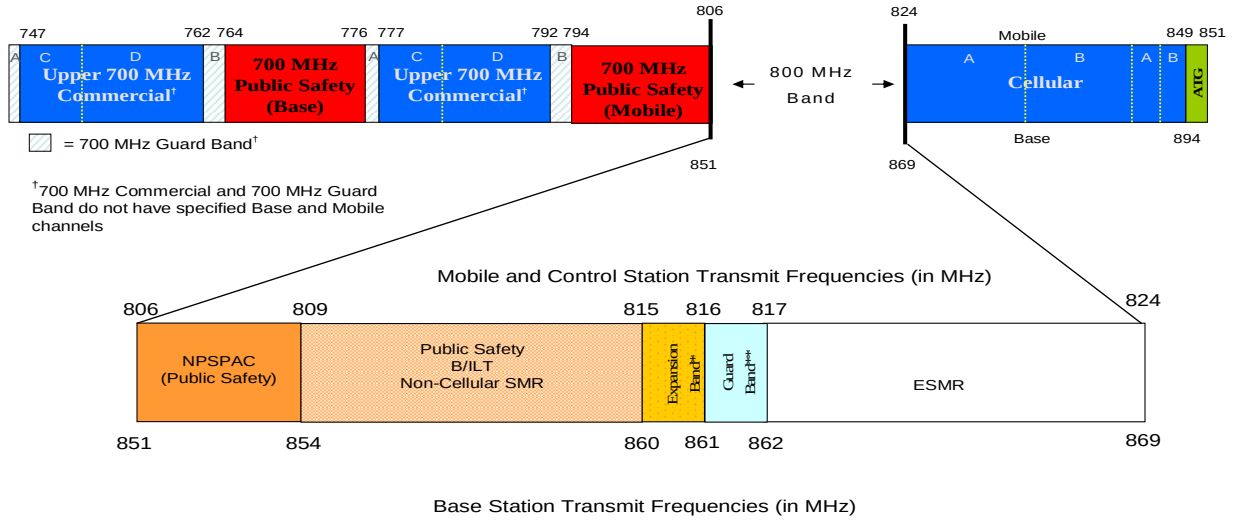
Under the new plan, the 800 MHz band will be configured as follows[20]:

[17] *Id*. at 133.

[18] *Id*. at 140.

[19] *See* FCC Staff Report, Spectrum Policy Task Force Report in ET Docket No. 02-135, 4, 22 (released Nov. 22, 2002).

[20] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55), at paragraph 21.



*No public safety system will be required to remain in or relocate to the Expansion Band; although they may do so if they choose.

**No public safety or CII licensee may be involuntarily relocated to occupy the Guard Band.

Public Safety and ESMR systems will be separated by two bands: an Expansion Band and a Guard Band. Specifically, ESMR systems will be given fourteen megahertz in the upper portion of the 800 MHz band (817-824 MHz/862-869 MHz) and Public Safety, CII and other non-cellular systems will be given eighteen megahertz in the lower portion of the 800 MHz band (806-815 MHz/851-860 MHz). Nextel will relinquish all of its 800 MHz band spectrum holdings below 817 MHz/862 MHz, which will provide approximately 4.5 megahertz of spectrum to Public Safety.[21]

Benefits of Band Reconfiguration to Local Governments

4.5 MHz of additional 800 MHz band spectrum will be available for Public Safety as a result of the band realignment. Moreover, since Public Safety will be moved to the lower portion of the 800 MHz band, which is adjacent to the 700 MHz Public Safety band, Public Safety will have the benefit of interoperability. Lastly, the additional spectrum made available as a result of the band reconfiguration will provide for approximately 90 additional two-way channels for Public Safety.[22]

The Transition Administer is responsible for managing the long term process

[21] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55), at paragraph 11.

[22] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55).

The FCC will appoint an independent Transition Administrator, within 45 fays of the release date of the *Report and Order*, to manage the band reconfiguration process. The Transition Administrator will provide the FCC with a schedule detailing the commencement date for each NPSPAC region.[23]

The Transition Administrator is responsible for (1) ensuring that the reconfiguration is completed with minimal disruption to all licensees, (2) manage the financial and administrative aspects of the reconfiguration process, (3) manage the disbursement of funds and resolve any funding disputes, and (4) provide accountability for all of the licensees involved in the band reconfiguration process. The Transition Administrator must also provide the FCC with quarterly progress reports, annual audited statements of total relocation funding and resolution of conflicts. The Transition Administrator's decisions are subject to *de novo* review by the FCC.[24]

Relocation Process – The step-by-step process for Local Government

The Transition Administrator will notify a licensee of the need to relocate. Thereafter, the relocation costs are estimated and forwarded to the Transition Administrator. The Transition Administrator forwards the estimate to Nextel and resolves any disputes. Nextel draws the necessary funds from the Letter of Credit and sends the funds to the contractor which will reconfigure the licensee's system. Once the retuning is complete, the Transition Administrator evaluates the allocation of funds to assure that neither party has received an over/under payment. The licensee begins operating on the new channel assignment. This entire process should not cost the licensee any money.[25]

The relocation standards are designed to ensure that licensees receive "comparable facilities" and "continuity of service." Comparable facilities have been categorized as functionally similar systems with the same capacity, same bandwith, number of channels, signaling capability and access time. Furthermore, the new facilities must have the same or superior quality of service in terms of reliability, interference protection and voice quality.[26]

How long will this take? - The transition timeframe

The FCC proposes that the first 20 NPSPAS regions should be complete within 18 months and total band reconfiguration should be complete within 36 months of the release of a Public Notice announcing the start date of reconfiguration in the first NPSPAC region.[27]

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[23] *Id.* at 11 and 27.

[24] *Id.* at 27 and 168.

[25] *Id.* at 195.

[26] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55) at paragraph 11.

[27] *Id.* at 11, 28 and 201.

Regarding the retuning schedule, 30 days prior to the start date for each NPSPAC region, the FCC will issue a Public Notice which will establish a three month voluntary negotiation period.[28] In the event voluntary negotiations fail, a three month good faith mandatory negotiation period begins, whereby the Transition Administrator may require mediation or settlement conferences. In the event the licensee cannot relocate, the licensee may petition for a waiver. Outstanding disputed issues should be reported to the Transition Administrator.[29]

What are the Local Government's rights in the event of a dispute? - Dispute Resolution

In the event of a dispute between the parties, the Transition Administrator will have the option of mediating the dispute itself or appointing a mediator. In the case where a mediator is appointed, the mediator must submit a decision to the Transition Administrator within 30 days of the submission of the dispute and response.[30]

Following the decision, the parties may seek expedited non-binding arbitration, which must be completed within 30 days.[31] Thereafter, the Transition Administrator must forward the decision and record to the Wireless Bureau within 10 days of the decision. The Wireless Bureau has the option of making a decision based on the record or may conduct a hearing. Either of the parties have the option of appealing the Wireless Bureau's decision to the FCC; however another hearing before the FCC will be required.[32]

Full funding of relocation costs for Local Governments

Nextel is financially responsible for all of the costs associated with the band reconfiguration. Specifically, Nextel must obtain a letter of credit in the amount of $2.5 billion to guarantee adequate funds are available to implement this process. Furthermore, the cost of channel changes necessary to complete the band reconfiguration will also be paid by Nextel. Moreover, Nextel must provide licensees including Public Safety licensees with comparable facilities. Finally, the FCC has adopted financial safeguards which will ensure the completion of the band reconfiguration in the event Nextel can not fulfill its financial obligations under this plan.[33]

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[28] *Id.* at 201.

[29] *Id.*

[30] *Id.* at 27.

[31] *Id.* at 194.

[32] *See* "Improving Public Safety in the 800 MHz Band" (WT Docket No. 02-55) at paragraph 194.

[33] *Id.* at 314.

In exchange for Nextel's financial and spectral contributions, Nextel will be granted the right to operate on two 5 MHz blocks in a different part of the 1.9 GHz spectrum. Additionally, Nextel will receive credit from the FCC for the expenses incurred for the relocation of the licensees in the 800 MHz and 1.9 GHz. Nextel will also receive credit for the band value of spectrum rights Nextel relinquishes. In the event that the credits Nextel receives from the FCC is greater than the determined value of the 1.9 MHz spectrum rights, Nextel will pay the U.S. Department of Treasury the difference once the relocation process is complete.[34]

Conclusion

Today, Public Safety departments' first responders are still in need of reliable equipment which is free from interference. For these first responders, interference could mean life or death. Homeland Security has placed pressure on the FCC to finally make this interference issue a priority. Consequently, the FCC has addressed the 800 MHz interference issue in their *Report and Order* (FCC 04-168). However, as discussed, this is a three-year process and in the interim, police officers, firefighters, rescue teams and the citizens they seek to help will continue to be at risk.

As discussed, the proposed rebanding process is very complex. Therefore, it is imperative that local governments protect their rights to ensure that comparable facilities are received and all costs are fully reimbursed. Local governments need to know what to expect during the upcoming relocation process. The law firm of Leibowitz & Associates, P.A. can provide assistance and all of the information local governments will need to prepare for the retuning or the replacement of existing equipment.[35]

[34] *Id.* at 217.

[35] For more information, please visit our Information Center on the web at www.publicsafety800MHz.com. *The information presented in this paper is not intended to constitute legal advice. The hiring of a lawyer is an important decision that should not be based solely upon advertisements. Before making a decision, ask us to send you free written information about our qualifications and experience.*