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April 29, 2003

BY ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: WT Docket No. 02-55
Ex Parte Presentation

Dear Ms. Dortch:

On Monday, April 28, 2003, Lawrence Krevor, Vice President – Government Affairs, Nextel Communications, Inc. ("Nextel"), Dave Maples, Nextel's Senior RF Operations Engineer, and I met with Jennifer Manner, Senior Counsel, Office of Commissioner Abernathy, regarding the Consensus Plan and the Commission's above-captioned rulemaking on public safety communications in the 800 MHz band. At our meeting, we discussed the urgent need to adopt the Consensus Plan as a means of resolving CMRS – public safety interference and providing additional spectrum for public safety communications. During this discussion, we provided the attached description of both the Consensus Plan and the causes of CMRS – public safety interference.

Pursuant to section 1.1206(b)(2) of the Commission's rules, 47 C.F.R. § 1.1206(b)(2), this letter and the attachment are being filed electronically for inclusion in the public record of the above-referenced proceeding.

Sincerely,

/s/ Regina M. Keeney
Regina M. Keeney

Attachment

cc: Jennifer Manner

Finding a Solution to Public Safety Radio Interference

Nextel Communications

Ex Parte Presentation in WT Docket 02-55

April 2003

Background

- This is about solving an interference problem.
- Nextel is part of a coalition supporting the "Consensus Plan."
- The Consensus Plan is the only workable solution before the FCC to resolve interference between 800 MHz commercial cellular systems and 800 MHz public safety systems.
- The Consensus Plan is supported by organizations representing 90% of the affected licensees in the 800 MHz band.

Consensus Plan Supporters

Supporters

- Association of Public-Safety Communications Officials-International, Inc.
- International Association of Chiefs of Police
- International Association of Fire Chiefs
  /International Municipal Signal Association
- Major City Chiefs Association
- National Sheriff's Association
- Major County Sheriff's Association
- Aeronautical Radio, Inc.
- American Mobile Telecommunications Association
- American Petroleum Institute
- Association of American Railroads
- Forest Industries Association
- Industrial Telecommunications Association (ITA)
- National Stone, Sand and Gravel Association
- Nextel Communications
- Personal Communications Industry Association (PCIA)
- Taxicab, Limousine and Paratransit Association

Opponents

- Cellular Competitors
- Southern Linc
- NAM/MRFAC - Boeing
- United Telecom Council (UTC)
- Satellite (MSS) and MDS

Background – The problem

- Beginning in 1999, Nextel and Public Safety became alerted to a problem affecting public safety radio handsets when they attempted to operate near Nextel's sites.
- The more we investigated the problem, the more we found that Cellular A Band carriers were also contributors to the interference.
- Reports of interference increased throughout U.S.
  - Denver, Seattle, Portland, Phoenix, Los Angeles, San Diego, Anne Arundel County, MD, Philadelphia, New York/New Jersey, Miami.
- All parties were operating within the FCC's rules.
- In April 2000, Public safety, cellular industry and manufacturers (Motorola) got together, at the request of the FCC, to research and examine potential solutions.
- In November 2000, the Best Practices Guide was presented to the FCC.
- While helpful in exploring the problem and in proposing short-term engineering fixes, a long-term solution was required.
- In the summer of 2001, APCO Project 39 was formed.
- In November 2001, Nextel filed the "White Paper" proposing a comprehensive realignment of the 800 MHz band and additional public safety spectrum at 800 MHz to increase interoperability.

Interference 101

- Public Safety, B/ILT, Nextel and the two cellular carriers share the 800 MHz band.
- Interleaved channels and NPSPAC channels.
- Public Safety (and private wireless) use high-site, high-power, analog base station systems ("noise limited").
- Commercial CMRS operators employ digital technologies using multiple low-site base station cellular architecture and frequency reuse ("interference limited").
- High-site PS systems do not co-exist well with low-site CMRS systems.
- The differential between more robust CMRS signals close to low-site base stations in relation to a more distant public safety signal can produce interference in public safety handsets ("near/far effect").
  - CMRS sites with heights of 90' or less are more often involved in interference than higher sites due to stronger signal "on the ground." (Zoning requirements often limit use of high sites)
  - Interference is generally limited to about ¼ mile of CMRS base stations.
  - Public safety systems and receivers from different vendors can be affected and, in some cases, contribute to the problem.

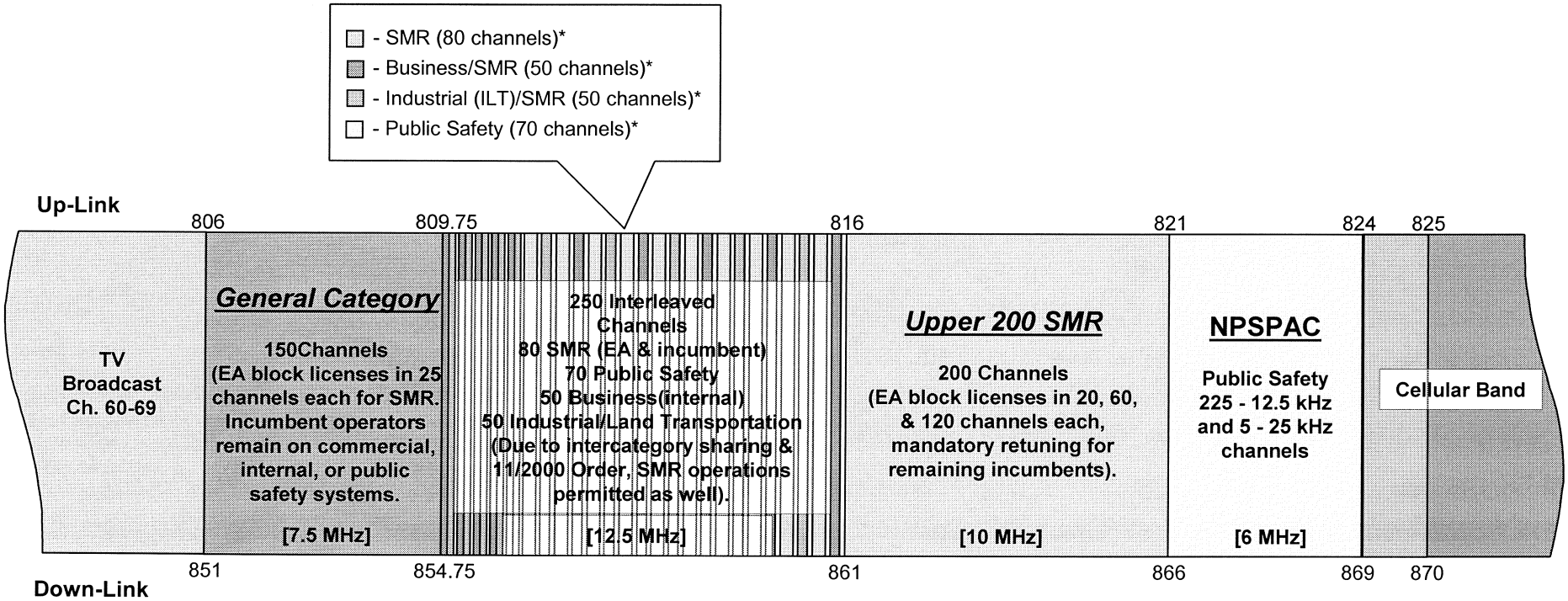
The 800 MHz Band Plan and Intermodulation

- Basic Problem: 800 MHz interleaved spectrum allocations did not anticipate evolving technologies.
- The 800 MHz Band Plan
  - Current allocation of public safety channels in lower and higher parts of 800 MHz band requires public safety receivers to operate on any channel between 851-869 MHz.
  - Receiver components can respond to undesired signals anywhere in this range
  - Current filter technology used in public safety receivers must be broader than 851-869 MHz; these receivers respond to transmissions above 869 MHz well into the cellular A-band channels.
- Intermodulation ("IM")
  - Combining of two or more RF signals to form a new signal (called an <u>IM product</u>)
  - Analogous to mixing paint (red + yellow = orange)
  - Occurs <u>inside the public safety receiver</u>
    - Result of (a) current spectral allocations and (b) presence of moderately-strong CMRS / SMR signals at receiver

Current IM-related interference can result from the completely FCC-legal operations of Nextel alone, cellular alone, or combinations of both.

FCC Spectrum Allocation of 800 MHz Band * - Today

* - Allocation for US zone (different in Mexican and Canadian border regions)



General Category

SMR/Bus/ILT and Public Safety incumbents operate conventional and trunked systems.
EA Auction winners authorized over-layed 25 channel contiguous blocks (SMR only).

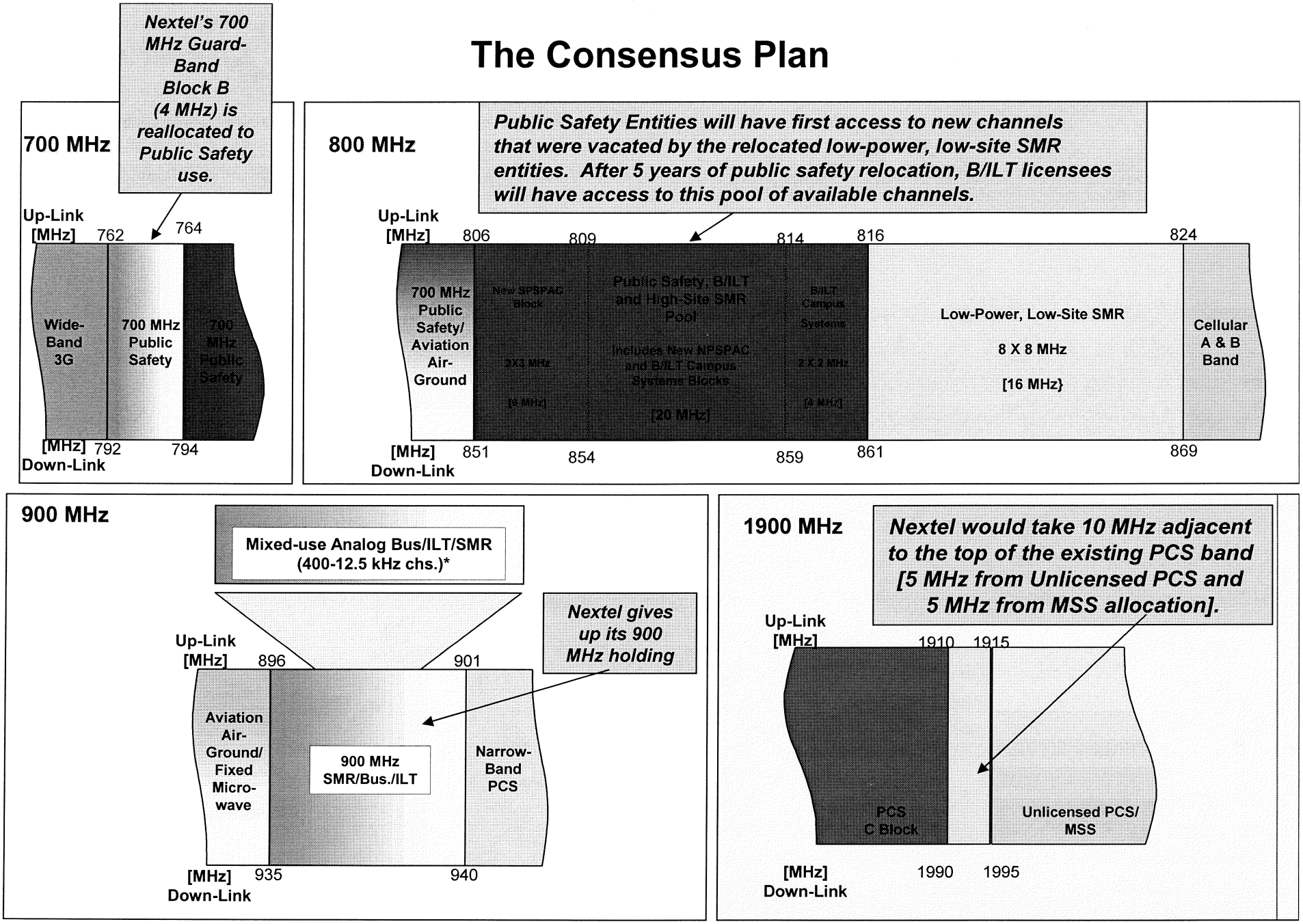
Interleaved Area (including Middle 80 SMR)

SMR, Bus/ILT and Public Safety incumbents operate conventional and trunked systems.
SMR use on Bus/ILT spectrum is approximately 50% of Business channels and 67% of ILT channels.
EA Auction winners authorized on 16 five-channel non-contiguous blocks (SMR only).

Upper 200 SMR

Three block licenses (20, 60 and 120 channels each) per EA with rights to relocate incumbents.
Nextel predominant licensee of EA spectrum and has relocated or cleared over 95% of spectrum.

What is the Consensus Plan?

- Consensus Plan realigns the 800 MHz spectrum to separate high-site, high-power uses from low-site, low-power use.
- As a result, CMRS – public safety interference will be virtually eliminated.
  - Interference to NPSPAC licensees (moved to 851-854 MHz) is eliminated
  - Next-generation public safety receivers can be designed with tighter front-end filters to further minimize the problem.
- Nextel will contribute up to $850 million to relocate affected public safety and private wireless incumbent licensees.
  - The Consensus Parties are confident in this funding figure based on significant work done with public safety.
  - No licensee has to move unless funding for that Region is available.
- 70% of 800 MHz private wireless licensees do not have to relocate.
- Public safety gains 800 MHz and 700 MHz spectrum – an average of 2.5 MHz at 800 MHz and 4 MHz at 700 MHz.
- Other licensees, including Nextel, do not lose spectrum.

The Consensus Plan