5/2/02

Mr. Caton: The original and 9 copies of Maui County's response was sent by FedEx on 5/1/02 to the Office of the Secretary, 445 12th Street S.W., Room TW-A325, Washington D.C. 20554 (FEDEX Tracking 8329 7809 0913).

There seems to be some confusion as to where to send it so I prepared another packet containing 10 copies of what was already sent and mailed it to the 9300 E. Hampton Drive address just to make sure you received it properly.

MAUI COUNTY POLICE DEPARTMENT

55 Mahalani Street, Wailuku, Maui, HI

Capt. Jeffrey Amaral

800-MHz System Administrator

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Police Fire
911
Medical

DOCKET FILE COPY ORIGINAL

JAMES "KIMO" APANA
MAYOR

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OFFICE OF THE MAYOR
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COUNTY OF MAUI
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May 1, 2002

Mr. William F. Caton
Office of the Secretary
Federal Communications Commission
445 12th St., S.W., Room TW-A325
Washington, D.C. 20554

Re: WT Docket No, 02-55, Improving Public Safety Communications in the 800 MHz Band, Consolidating the 900 MHz Industrial/Land Transportation Business Pool Channels

Dear Mr. Caton:

Enclosed is Maui County's response to WT Docket No. 02-55.

Thank you for affording us the opportunity to respond. We sincerely hope that the Commission will inevitably reach a conclusion that preserves public safety communications with minimal disruption to service, and at no cost to local governments.

Very truly yours,

JAMES "KIMO" APANA
Mayor, County of Maui

Enclosure

cc: Honorable Senator Daniel K. Inouye
Honorable Senator Daniel K. Akaka
Honorable Representative Patsy T. Mink
Honorable Representative Neil Ambercrombie

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Consolidating the 900 MHz	)	WT Docket No. 02-55
Industrial/Land Transportation and	)	
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To: The Commission

I. BACKGROUND

The County of Maui is the second largest in the Hawaiian archipelago, having a land area of 735 square miles. It consists of the islands of Maui, Molokai, Lanai and the uninhabited island of Kaho'olawe. It is the second largest amongst the islands that make up the State of Hawaii. The county's population averages 160,000 and is considered one of the fastest growing and most visited tourist destinations in Hawaii.

Maui County's 821 MHz radio system consists of eleven (11) repeater sites, utilizes twenty-seven (27) NPSPAC channels, and holds seven (7) various 800 MHz licenses. The overall age of equipment is less than 5 years old. Users of the trunked system include Police, Fire, Ambulance, Lifeguards, Civil Defense, Public Works Highways, Wastewater, Conservation Enforcement, Water, and Solid Waste Departments.

The overall concept of the FCC's NPRM evolved over the last several years due to interference related issues that have plagued 800 MHz public safety radio systems throughout the United States. During this time, Maui Police Department has identified that Commercial Mobile Radio Service (CMRS) licensees are the cause of interference to its public safety operations within the NPSPAC 800 MHz band. Nextel and AT&T Wireless have been identified as the primary sources of interference to Maui's NPSPAC 800 MHz frequencies. Maui Police Department, the County's sole public safety agency responsible for mission critical communications has been victimized by interference caused by Nextel and AT&T Wireless during the 2001 calendar year. Administrators and engineers of Nextel and AT&T Wireless, in cooperation with Maui Police Department's communications representatives, were able to illustrate and temporarily mitigate the interference issues at two identified problem areas. The primary solution was the reluctant frequency movement and output power reduction by the wireless providers. Although these areas are now useable by public safety, we are still susceptible to intermittent noisy radio conditions in these areas. We view this as a temporary fix. As demands for cellular capacity escalates, the interference issues could return as specific frequencies are reused, power levels are increased, and dynamic frequency reassignments are made without coordination with public safety communications officials.

II. THE APPROACH

Maui Police Department believes that as demand for cellular use increases so will interference to its public safety radio system. Solutions must be identified using a thorough, systematic, and comprehensive approach. Realizing the multitude of agencies and businesses affected, primary interest needs to be directed to public safety systems, which are charged with the protection of life and property of the citizens throughout the United States. Solutions must be

technical and field deployable for public safety interest only, and not economically or politically motivated for CMRS users such as Nextel.

While Maui Police Department believes resolving individual instances of interference must continue on a site-by-site basis, we strongly encourage long term solutions such as requiring intermodulation analysis with each application, analyzing the noise level caused by some CMRS systems, and perhaps reconfiguration of the band. Every effort must be made to recognize and identify interference before it becomes an actual problem in the field, not after the fact when it increases the risk to life and property.

III. BAND PLAN PROPOSED BY NEXTEL AND NAM IN NPRM

The following is Maui Police Department's synopsis of Nextel's proposal:

- Relocating public safety to a block of channels contiguous within the 700 MHz band would improve interoperability in places where 700 MHz is now available, perhaps even nationwide ***IF* and *WHEN*** TV stations vacate the band.

- The proposed plan would remove interleaving of public safety and CMRS channels and establish a contiguous block of public safety spectrum, which would reduce substantially, but not eradicate the potential for interference from CMRS licensees.

- The proposed plan would also generate about 10 MHz of additional spectrum for public safety.

- Maui Police Department would have to migrate to the lower portion of the 800 MHz band at quite a substantial expense and with major planning and work to successfully accomplish seamless mission critical communications.

- Nextel's proposal to pay up to $500 million of costs, and suggesting that additional funding come from other CMRS licensees may be well intended, however, we do not believe that other CMRS will be willing to voluntarily contribute, especially if other CMRS do not feel that they are contributing to the problem.

  Actual costs are unknown, but certainly it will require much more than $500 million to implement changes. In Maui County's case, radio equipment will require software updates, hardware modifications, and a high probability of complete replacement of certain equipment. Much of these factors will be dependent on the final ruling that is offered by the FCC.

- The proposed plan would relocate many non-public safety non-CMRS licensees, forcing them to other bands that Nextel would give up under the plan.

- The proposed plan would shift public safety users to the lower portion of the 800 MHz band and eliminate current interleaving of public safety and non-public safety channels. The plan would mitigate some interference in that regard. Maui County acknowledges the idea of a contiguous block of public safety channels as a good idea. In addition, it would be highly recommended that a generous "guard band" be in place for future protection from neighboring users.

- The proposed NAM plan does not adequately address the needed funds for such relocation, does not offer any additional spectrum, and moreover requires even more movement of public safety licensees than does the Nextel plan. It should be noted that

Nextel's plan requires only NPSPAC licensees to migrate, not ALL 800 MHz public safety licensees.

V. PROBLEMS ASSOCIATED WITH "RECONFIGURING" THE 800 MHZ BAND

In order to implement a wide area 800 MHz radio system, a public safety agency has to:

- Perform In-depth technical and regulatory analysis
- Provide an adequately documented proposal in order to secure financial commitments such as general funding, bonds, grants, etc., because of various governmental budget cycles, this normally takes a few years before funding is deliverable.
- Perform coverage and interference contours
- Apply for the necessary channels and receive its FCC issued Licenses in a timely manner
- Submit a Request For Proposal (RFP) to purchase and install its system
- Develop and coordinate a seamless transition while maintaining mission critical communications 24 hours a day, seven days a week.

The Commission's proposal to "only fund" systems which are in operation, and not recognizing systems that are already in planning stages, would adversely impact many public safety agencies that have accomplished most of the preliminary steps mentioned above. As is proposed by the FCC, public safety agencies will be at a major disadvantage after needlessly spending large amounts of funds during a planning phase of a project.

It is obvious that the $500M proposed by Nextel will not be adequate to relocate all public safety users affected. We believe a more realistic cost would be approximately $5 billion dollars for a nationwide solution.

Kauai County, a neighboring local government of the State of Hawaii, and a public safety user with an 800 MHz analog trunked radio system, is currently seeking funding to add one (1) additional countywide simulcast trunked radio channel to their system. It is estimated to cost $1.2 million dollars and does not include the purchasing of additional portables, mobiles, and control stations. Imagine after purchasing and installing a new countywide channel, at a cost in excess of one million dollars, the Federal Communications Commission decides that they must relocate to another band!

Maui County has spent well over $7 million dollars to purchase, install and operate its countywide 800 MHz NPSPAC radio system. In a recent survey, we concluded that all of our Base Station, Control Stations, Mobile and Portable units will have to be individually re-tuned, software enhanced, hardware upgraded, and possibly even replaced completely. Not to mention, the percentage of equipment that will inherently not "make the grade" after modifications and require replacement anyway.

Maui Police Department's preliminary analysis of the proposed relocation reveals the cost to migrate to the 806 MHz band will consist of:

- Licensing

  We estimate the cost to complete FCC forms for the entire system and pay for frequency coordination to be well over $60,000.00.

- Coverage Contour Analysis

  We estimate the cost for an engineering analysis of a new system and its coverage contour analysis to be well over $100,000.00

- Hardware / Software Upgrades and Testing

  We estimate the cost for any software and hardware modification to be approximately $625,000.00. If the FCC mandates out of band frequency changes, many public safety systems designed, purchased, and installed back in the 80's to mid 90's will necessitate to be totally replaced, costing many millions of dollars.

The cutover to relocate to the 806 MHz band will not be an "out of box" experience and needs to be keenly considered by the FCC. If it is the decision of the Commission to relocate public safety, regardless of band, it will require seamless transition on the many mission critical systems throughout the County. Many of the sites affected do not allow for side-by-side duplication of equipment due to lack of physical space. Seamless operation of mission critical systems will be a major and extremely costly undertaking.

Another issue that requires consideration is the liability placed on public safety agencies such as the Maui Police Department and our fellow emergency responders throughout the United States. Who will be responsible if during, or as a result of the relocation, someone were to be injured or killed due to lack of communications? When Maui Police Department migrated from its VHF High Band to the 800 MHz NPSPAC system, it required continuous 24/7 communications. We carried two mobile units in each vehicle until the system's acceptance phase of the project was successfully completed. This was easily accomplished since VHF repeater sites were at different locales. How do you build nearly identical configurations using the same real estate where 800 MHz

systems are already deployed? Capital improvement projects to enhance space requirements will be an additional cost and inherently cause many delays to the timeline of such requirements.

An additional issue as it relates to the proposed relocation is the potential for FCC migration to a more spectrum efficient operation called ***Spectrum Refarming***. Here, FCC asks whether licensees that shift channels be required to migrate to more spectrum efficient "narrowband operation." In theory, this is great, however, in the real world, there are many systems that do not have equipment capable of "simply" migrating to narrowband operation. Those agencies would very likely be required to purchase new equipment.

VI. Frequency Coordination

One of the most proactive and positive decisions FCC ever implemented has been to allow competition in the 800 MHz bands both for public safety and commercial radio services. It has been well documented that such competition in these services has increased efficiency in frequency coordination and drastically reduced the cost, sometimes up to one-million dollars for large agencies.

FCC seeks comments on Nextel's proposal to establish a "Public Safety Realignment Frequency Coordinator". Maui Police Department strongly opposes the concept of a "Public Safety Realignment Frequency Coordinator", or commonly referred to as ***Super Coordinator.*** Such an organization would be another unnecessary layer of bureaucracy, which would make the system more inefficient and expensive. Furthermore, the concept of a ***Super Coordinator*** would be in direct conflict with the Commission's long standing on promoting competition.

This type of "collective coordination" would reduce accountability and induce collusion. The idea of a ***Super Coordinator*** should not be allowed, let alone contemplated.

Maui Police Department believes if the Commission proposes such a restructuring, it should be assigned to the existing frequency coordinators.

CONCLUSION

In deciding on a plan, **all costs** must be inclusive. The definition of allowable costs should include engineering, licensing, coordination fees, administration, hardware / software upgrades, purchase of new equipment that may be required, and any capital improvement enhancements to sites and control facilities, etc. Public Safety systems should be "made whole," with the exact in-building coverage that is currently being experienced on our existing 800 MHz systems.

A fund, specifically designed for this project should be created and administered with simplicity and expeditious reimbursement procedures. Maui County, as well as the other counties within the State of Hawaii, cannot afford to go back to our constituents to ask for more money to rebuild fairly new radio systems, many of which are paid for with bonds that are amortized over many years.

In addition, Maui County and our fellow public safety constituents on Oahu, Kauai and Hawaii opposes any arbitrary ceilings on reimbursement because the costs will vary greatly from licensee to licensee. Furthermore, we oppose any ceiling on total payments, i.e., the $500 million offered by Nextel, as it is impossible to obtain accurate estimates of total costs with so many "unknowns" lurking during this NPRM.

Maui County opposes the concept of a ***Super Coordinator*** as it will stifle competition and set bad precedent. Any FCC Mandate to relocate to 806 MHz or any other band **MUST** include payment from CMRS companies and/or federal government such as auction proceeds, for all direct and non-direct costs to public safety agencies. To do otherwise, it would be considered an un-funded mandate.

The establishment of an adequate "guard band" must be considered. It is recommended that it be a 3 MHz separation rather than the minimum 2 MHz as stated in the Nextel plan. This has been recognized as a vital separation factor when working to solve interference problems in the field at sites that have been problematic to public safety communications.

Wireless providers using the 800 MHz band, namely Nextel and AT&T, have been the fundamental catalyst responsible for inducing in-band interference that has stifled many public safety communications throughout the United States. These are commercial operators with consumers who pay millions of dollars each month for wireless connectivity. These providers have been the "last people at the table" and have caused the issues that we now face today. Maui Police Department does not believe the Commission should lose sight of holding "*the last ones in*" as being responsible to seek creative solutions, **at their costs**, without causing a major disruption to public safety communications systems across the United States.

If a solution requires Nextel, AT&T, or any other commercial entity to modify their business model, including the need for themselves to relocate to the 2.1 GHz spectrum, then the responsibility should rest on their shoulders and not on State and Local government agencies who by sake of procurement limitations may be stymied to effectively and efficiently respond in a manner that requires an expeditious response.

It is estimated that about less than 20 percent of public safety radio systems throughout the United States are experiencing some level of reported interference on their 800 MHz systems. In Maui County, it has been documented that Nextel and AT&T Wireless have been the primary source of interference to our radio system. It would be irresponsible and fiscally wasteful to require the other 80 percent to go through a major revamping of their radio systems when

the relocation of companies such as Nextel, to the 2.1 GHz spectrum, at no cost, would be more logical.

Maui County strongly urges the Commission to consider this option as a solution to the interference problems experienced by public safety agencies.

Respectfully submitted,

JAMES "KIMO" APANA
Mayor, County of Maui