Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of	)	
	)	
The Development of Operational,	)	
Technical and Spectrum Requirements	)	
For Meeting Federal, State and Local	)	WT Docket 96-86
Public Safety Agency Communication	)	
Requirements Through the Year 2010	)	
	)	
Establishment of Rules and Requirements	)	
For Priority Access Service	)	

To: The Commission February 23, 1999

REPLY COMMENTS TO COMMENTS SUBMITTED REGARDING PETITIONS FOR RECONSIDERATION

The State of California (State), through its Department of General Services, Telecommunications Division, and pursuant to Section 1.429 of the Federal Communications Commission Rules and Regulations, hereby submits reply comments on comments submitted regarding the State's and other petitions for reconsideration and clarification of portions of the Commission's *First Report and Order* in the above-captioned proceeding, FCC 98-191 (released September 29, 1998), 63 Fed Reg. 58645 (November 2, 1998).

THE COMMISSION MUST SELECT A MODE OF OPERATION FOR USE ON THE INTEROPERABILITY CHANNELS NOW

The State disagrees with the arguments made by Ericsson, Inc., and the Joint Petitioners[1] regarding the need for an interoperability standard today. Ericsson and the Joint Petitioners argue that no standard is needed until after significant use of the new spectrum becomes a reality. This argument fails to address the very real purpose of an interoperability standard---to provide a mode of operation through which ALL agencies operating in a particular frequency band[2] can communicate. Failing to establish a standard BEFORE any agency purchases a radio system does a disservice to those agencies who become the first users of this spectrum because they run the very real risk of purchasing radios that may be incompatible with a "future" standard and certainly would not have the "as-yet-undefined" standard included as a mode of operation. These "first" agencies would be excluded from use of the interoperability channels until such time as they make their second (or later) purchase of equipment. A standard should be set PRIOR to any agency purchasing equipment to construct a system in the 746-806 MHz band so that they have an opportunity to ensure that selected interoperability mode is a feature of their new radio system.

Ericsson and the Joint Petitioners also argue that selection of the Project 25 Phase I Standard (ANSI Standard 102) as the interoperability standard is inappropriate

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[1] The American Association of State Highway and Transportation Officials, the Forestry Conservation Communications Association, the International Association of Fire Chiefs, Inc., the International Municipal Signal Association, and the National Association of State Foresters.

[2] Interoperability should provide a mode through which an agency can communicate with any other agency regardless of frequency band being used or type/brand of equipment being used. However, the problems of interoperability across the multitude of frequency bands currently used by public safety agencies is not germane to this proceeding.

because it fails to satisfy the Commission's establishment of 6.25 kHz as the desired bandwidth of channels in the 746-806 MHz band.

In response, the State reiterates a point made in its Petition for Reconsideration, i.e. the bandwidth of interoperability channels should be set at 12.5 kHz for the foreseeable future. If nothing else, interoperability is dependent upon all participants having a COMMON MODE of operation. The common mode need not be the mode of operation used on all channels within the radio, but it must be a mode easily implemented in all radios.[3] As the State looks at the various digital technologies being suggested for this band, it notes a significant variance in how each technology operates. Project 25 Phase I provides for a 9.6 kbps signal in a 12.5 kHz channel, Project 25 Phase II provides for a 9.6 kbps signal in a 6.25 kHz channel, Ericsson's 2-slot TDMA offering provides for a 18 kbps signal in a 12.5 kHz channel. The European TETRA standard provides for a 36 kbps signal in a 25 kHz channel. If all of these technologies are used by different agencies building radio systems in the 746-806 MHz, what is the COMMON MODE of operation for interoperability?

One feature of the Project 25 Phase I/Phase II radios is an ability for a radio operating in one mode to "talk" directly with a radio programmed to operate in either the same mode as the transmitting unit or in the opposite mode.[4] This feature is a result of

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[3] For example, analog-FM is the common mode of operation used for interoperability in the other public safety bands today. Regardless of which of the three mutually-incompatible trunking schemes used for routine operations or regardless of the several mutually-incompatible methods of encryption available today, virtually every radio is capable of reverting to simple analog-FM for interoperability.

[4] A radio transmitting a Phase I (12.5 kHz bandwidth) signal can be received by both "Phase I" and "Phase II" receivers. Similarly a radio transmitting a Phase II (6.25 kHz) signal can be received by both "Phase I" and "Phase II" receivers.

the design of the receiver which allows it to decode either an incoming Phase I or an incoming Phase II signal equally well. Thus, if either Project 25 mode of operation were selected as the COMMON MODE, then all Project 25 compliant radios would be capable of communicating with each other on the interoperability channels. Since any Phase I radio operating on the interoperability channel would occupy 12.5 kHz of bandwidth, the State recommended the bandwidth of the interoperability channels be set at 12.5 kHz in full recognition that radios transmitting in the Phase II mode would actually occupy only 6.25 kHz of the available bandwidth.

Furthermore, in discussions with the Project 25 Steering Committee about establishing a second track for Phase II (i.e. a TDMA track for the standard), Ericsson has agreed to include a Project 25 Phase I mode of operation in radios built to their 2-slot TDMA proposal.

Thus, radios built to use three of the four possible digital modes of operation known to-date already are “committed” to having Project 25 Phase I as the COMMON MODE of operation.

The State is unable to comment about the ability of radios using the European TETRA standard to also operate in the Project 25 Phase I mode. It notes, however, that designing a radio to include a 12.5 kHz mode of operation in an otherwise 25-kHz bandwidth radio should be much simpler than trying to provide a 6.25 kHz mode of operation.

In summary, the Commission must act to select a mode of operation for use on the interoperability channels and that mode must be selected before any public safety agencies commit to building systems in the 746-806 MHz band. The State believes

Project 25 Phase I (ANSI Standard 102) to be the single mode most acceptable as COMMON MODE of operation to proponents of the four known possible technologies.

THE STATE OPPOSES REVERSING THE BASE AND MOBILE ALLOCATIONS

The State joins the State of Florida, APCO, Motorola, and Ericsson in their opposition to the Federal Law Enforcement Wireless User Group (FLEWUG) proposal to reverse the base and mobile transmitter allocations. FLEWUG's proposal will serve to reduce the amount of available spectrum, reduce the potential for interoperability between systems operating in the 746-806 MHz band and systems operating in the 806-869 MHz band, and do little to increase protection to GLONASS in the real world. FLEWUG would have the Commission believe that mobile units transmit only on the mobile frequency and fixed stations transmit only on the base frequency of a mobile relay pair, but such is not the case. In the public safety environment, direct unit-to-unit communications, occurring on what would be the "base" frequency, is a common mode of operation. Thus, mobile units can be expected to operate on both the "mobile" frequency and on the "base" frequency. FLEWUG's perception of increased protection to GLONASS through the control of transmitter location in the licensing process is unfounded in the real world of how public safety agencies use their radio systems.

THE COMMISSION (OR NCC) NEEDS TO DEFINE THE ROLE OF THE REGIONAL PLANNING COMMITTEES AND THE ROLE OF THE FREQUENCY COORDINATORS

The State disagrees with the Joint Petitioner's assertion that the Commission's intent on the role of the regional planning committees and the frequency coordinators is clear.

In the NPSPAC (821-824/866-869 MHz) process, Regional Planning Committees (RPCs) were required to develop "frequency specific" plans, i.e. plans which assigned specific frequencies to specific agencies. Subsequently, as new agencies needed frequencies or "existing" agencies needed additional frequencies, the RPC had to develop and submit for Commission approval a modified plan showing the new distribution of frequencies. Within California, all applications for licensing in the NPSPAC band are submitted first to the appropriate RPC[5] for review and concurrence before they are forwarded to APCO for continued processing. The RPC ensures the requesting agency is eligible, that the requested frequency is assignable to the agency in accordance with the plan, and that the proposed technical parameters comply with the requirements of the plan.

The Joint Petitioners, on the other hand, assert that the "...selecting of channels...and evaluating technical conditions...will be performed by the frequency coordinator." This demonstrates a clear conflict between the current practice, at least as practiced by the two RPCs in California, and how the Joint Petitioners envision the process.

The Joint Petitioners also assert that the Commission, over ten years ago, required that the frequency coordination process operate at the national level. Such is not true. While the Commission required that each of the designated frequency

[5] The southern portion of California is in Region 5 while the northern portion is in Region 6.

coordinators maintain a national office to which applicants could send applications, there is no requirement that all processing of those applications take place at the national office. As point of fact, of the four frequency coordinators designated to coordinate frequencies in the public safety radio services, three utilize the services of "local advisors" to perform some evaluation of the application prior to approval.[6] In the State's experience, local involvement in the frequency coordination process has been invaluable in making the process work effectively. Knowledge of local terrain, local propagation characteristics and actual usage of a channel has resulted in the coordination of many installations at significantly closer spacing than would appear possible from a simple distance separation or computer-modeling basis. Conversely, the application of local knowledge has served to forestall unacceptable interference situations before they occur. For this reason, the State strongly supports LOCAL involvement in the assignment of frequencies and the technical evaluation of a proposed installation.

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[6] The Association of Public Safety Communications Officials-International, Inc. (APCO), the American Association of State Highway and Transportation Officials (AASHTO), and the Forestry-Conservation Communications Association (FCCA). (NOTE: AASHTO and FCCA are amongst the "Joint Petitioners")

FUNDING OF THE REGIONAL PLANNING PROCESS SHOULD NOT BE A STATE RESPONSIBILITY

The Joint Petitioners assert that since the boundaries of most NPSPAC regions align with state boundaries that RPCs can be "...extensions of the states' telecommunications planning process, and thus eligible for state funding." There are two major problems with this assertion.

First, the presumption that each state has a telecommunications planning process which is applicable to all public safety agencies within the state is false. The State of California has no such centralized agency (state agency or other) which is responsible for overseeing all telecommunications planning. Thus, not only is there no legislative authority for such an agency to exist, but most local governmental agencies would strongly oppose any attempt to set up such an agency.

Second, since there is no central agency within California there is no mechanism for the state to fund a regional planning process. Furthermore, even if there were a mechanism for the state to fund regional planning, there is no assurance that funds could be found considering other demands upon state funds.

The Commission must find a way to fund the Regional Planning Process. It seems only reasonable that the process be funded by those who will make use of the spectrum.

THE DEFINITION OF "NGO" MUST BE CLARIFIED

The comments filed by the Utilities Telecommunications Association (UTC) and the American Petroleum Institute (API) clearly demonstrate the need to define what an "NGO" is and how it fits within the public safety community. Both UTC and API argue that since they occasionally become involved in events requiring coordination with public safety agencies, they should be classified as NGOs fully eligible to use the public safety portion of the spectrum. The State strongly disagrees with this interpretation.

The State believes NGOs fall into two categories. The first category are private companies which might build a communications system for exclusive use by public safety agencies.[7] The second category are private companies which are providing a direct public safety service under contract to a local community.[8] In each case, communications internal to the company which are not directly related to the public safety service would not be allowed.

UTC and API, however, want to add a third category of NGO---the private company who has a need to coordinate with a public safety agency during some portion of conducting their business. The State does not question the fact there is a need for it to coordinate with utility companies following a major storm or disaster. Similarly the State needs to coordinate with petroleum companies following an oil spill.

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[7] Basically, a SMR-type operation in which the private company builds a radio system for the exclusive use of one or more public safety agencies in an area. No commercial use of the system would be permitted.

[8] For example, American Medical Response provides paramedic, EMS, and ambulance services to many communities in California in place of a governmental entity having to create, staff, and operate those services.

But the nature of those communications is to exchange information about the extent of the recovery effort and the types of services each needs from the other. Communications internal to a utility company's response to the storm/disaster or internal to a petroleum company's response to an oil spill, however, should not occur on public safety channels, but rather should occur on channels regularly assignable to the utility/petroleum company. In a similar manner, should the "coordination channel" be amongst those regularly assignable to utility/petroleum operations[9] then any public safety use of that channel should be restricted to those communications needed to coordinate response and not be related to internal communications of the public safety agency in making their response to the situation.

The State believes some of the desire of the UTC and API to have their constituents designated as NGOs is based upon a need to resolve frequency congestion in their own bands. The State understands the need of private companies to communicate as a means of enhancing the services they provide to the public. Furthermore, during disasters and other more routine events, these companies provide services and assistance which is invaluable to government's ability to respond. The State also understands that it would be very difficult for the utilities, petroleum companies, railroads, and other commercial interests to compete effectively in any sort of spectrum auction.[10] For this reason, the State supports an allocation of spectrum for internal use by commercial companies in providing goods and services to the public.

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[9] The State of California currently holds licenses to operate on "petroleum" frequencies designated for "oil spill recovery".

[10] Auctions favor companies wanting to "buy" the spectrum as a commodity they will later "sell". In obtaining spectrum, a utility company, petroleum company, railroad, etc. may have no desire to use the

Respectfully submitted,

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spectrum as a commodity, it is intended as a critical “tool” to be used in better providing services to their customers.