

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

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

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PETITION FOR RECONSIDERATION  
of the  
FIRST REPORT AND ORDER  
FCC 98-191

From  
John S. Powell

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To: The Commission

**PETITION FOR RECONSIDERATION  
By JOHN S. POWELL**

1. BACKGROUND

I have been active in public safety communications since 1971. After receiving a BSEE from the University of California at Berkeley in 1973, I joined the UC Police Department that same year and was promoted to sergeant in 1977. I served as an advisor to the California Legislature's Joint Committee on Fire, Police, Emergency and Disaster Services, and am currently a member of the California Law Enforcement Mutual Aid Radio System Executive Committee. I served on the Board of Officers of the Association of Public-Safety Communications Official's – International (APCO) from 1989 through 1993, and as APCO President in 1992/93. I have been an APCO representative on the Project 25 Steering Committee since its founding in 1989. I am a member of the Communications & Technology Committee of the International Association of Chief's of Police and serve as IACP's technical representative to the National Public Safety Telecommunications Council (NPSTC). I also serve as vice-chair of the Communications Subcommittee of the Law Enforcement & Corrections Technology Advisory Council to the

National Institute of Justice. In August, I received APCO's highest award for "Long-Term Technical Contributions to the Art & Practice of Public Safety Communications.

Specific comments made in this Petition are based on my participation in the Public Safety Wireless Advisory Committee (PSWAC) as a member of the Technology Subcommittee and as Chairman of the Future Interoperability Needs Working Group of the PSWAC Interoperability Subcommittee. I was also one of the principal authors of the 700 MHz bandplan presented to the Commission by NPSTC in its original Comments (and subsequent ex parte follow-up presentation) on this Docket. Finally, as chairman of the User Needs Subcommittee of Project 34 (Project 25 Phase III – Advanced Wireless Standards Project), I am aware of specific issues regarding high speed data and related standards development.

I am filing this Petition as an individual based on the considerable experience I have gained over the past 27 years in the public safety communications field and as a United States citizen whose right to life, liberty and the pursuit of happiness could be irreparably harmed by the future ineffective delivery of public safety services based upon incorrect action by the Commission. It does not necessarily represent the views or position of APCO, the IACP, the National Institute of Justice or any of the other organizations of which I am a member, nor does it represent the views or position of my employer, the University of California. It does express my concern as a state law enforcement field supervisor that my employees be equipped with state-of-the-art technologies to assist to the greatest extent possible in effective and efficient provision of public safety services and that they are afforded the greatest possible level of officer safety.

## 2. OVERVIEW

This Petition is directed to specific action taken by the Commission in this First Report and Order

(hereafter “R&O”) with respect to high speed data channeling and channel widths specified for the new 700 MHz public safety band. While there are a myriad of other issues of concern in this Report and Order, those issues are the subject of other Petitions.

#### NPSTC’s HSD Channel Plan

First, it is necessary to clarify the record with respect to NPSTC’s position on HSD/video channeling. NPSTC originally proposed 100 kHz channels for these applications. This was based on the assumption that a 384 kbps data rate could be transported within this spectrum by new equipment/technologies within 24 months after adoption of the R&O (in the year 2001 timeframe). The *PSWAC Final Report* predicted a HSD data efficiency of 3.5 bits/second/Hz (b/s/H) in the year 2000, continuing to an efficiency of about 5.0 b/s/H by 2010<sup>1</sup>. Therefore promoting an efficiency standard of 3.84 (384 kbps in 100 kHz) in 2001 did not seem unreasonable.

At the request of the Commission, an attempt was made to resolve the differences between the Motorola proposal and the NPSTC proposal. Lengthy technical discussions led to NPSTC’s final position of 125 kHz (for an efficiency of 3.07 b/s/H) as clearly a reachable goal within the 2001 timeframe; this channeling also fit well within the band plan that NPSTC had proposed, based on an overall 12.5 kHz basic channel. It was not without mathematical basis nor merely a compromise with Motorola as the Commission suggests in Paragraph 40.

In R&O Paragraph 37, the Commission stated “a 384 kbps data rate, as recommended in the

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<sup>1</sup> *PSWAC Final Report* Appendix B (Technology Subcommittee – TESC - Final Report): Paragraph 1.0 and Table 3 of Appendix C to the TESC Final Report, page 270.

*PSWAC Final Report* for HSD and video, is appropriate for 150 kHz channels.<sup>2</sup> While this channeling may be based on currently fielded technology (that is questionably appropriate for these applications), the resulting efficiency of 2.56 b/s/H (384 kbps in 150 kHz) certainly does not “push the envelope” with respect to emerging technology and scarce spectrum.

### Establishing a National Interoperable HSD Network

The thrust of this Petition regards action taken by the Commission that I believe will severely hinder any effort to establish a national interoperable data network as envisioned by Vice President Gore’s National Performance Review, IT04: *Establish a National Law Enforcement/Public Safety Wireless Network* initiative, and recognized by public safety leaders as one of few viable options for implementing future high-technology advanced wireless systems.

Careful technical consideration by NPSTC and manufacturers led to NPSTC’s proposal for a cellular implementation that provided four simultaneous paths based on a reuse pattern of 7 (for a total of 28 channel pairs). By establishing forty-eight 50 kHz “General Use” channels pairs and limiting the only area for such a network to the fifty-four 50 kHz pairs (aggregating to only 18 pairs capable of supporting 384 kbps/150 kHz) in the spectrum reserved for the 3<sup>rd</sup> Notice, such a network can not move forward.

### 3. DISCUSSION

The need for an integrated wireless high speed data network can not be overstated. There is clearly insufficient public safety spectrum, even including this new 24 MHz, to allow law enforcement agencies, much less other public safety users, to implement high speed data systems

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<sup>2</sup> The basis for this PSWAC recommendation is found in Paragraph 6.4.4 of the Appendix B (Technology Subcommittee Final Report, page 232) with regard to ITU H.261 for 384 kbps for slow video + audio and in

on an agency-by-agency approach, if such an implementation were even affordable.

Reality is that few agencies (federal, state or local) can today afford to implement a network that will provide needed HSD coverage, particularly when a plethora of handheld data devices are being implemented in non-traditional applications (such as for bicycle and horse patrols in the law enforcement community). And if such systems were implemented, there would be significant overlap between adjoining local jurisdictions, as well as overlay of city, county, state and federal jurisdictions. For data systems, this is simply a great waste of money and spectrum.

The channel plan proposed by the Commission in this R&O, with nearly half of the available HSD spectrum designated as “General Use,” nonetheless supports this wasteful implementation. Already, informal meetings in several metropolitan areas have shown demand for HSD spectrum, with each agency wanting channels to “do its own thing” leaving those agencies that are not ready to implement immediately without spectrum.

The need to implement such a network, however fraught it is with problems of coordination, control, and shared funding, is clear. Yet consider the formation of the Internet, a model upon which such a network could clearly be based, and it can be seen as a reality.

For such a network, standards will be essential. It is appropriate to briefly discuss the progress of Project 34. With the release of this R&O, Project 34 held a manufacturer’s briefing at the APCO Annual Conference and Exposition in Albuquerque in August. Manufacturer representation and interest was phenomenal. There are now over 30 manufacturers, system integrators and data system suppliers who have expressed interest in Project 34. The Advanced Wireless “*User Needs*

*Statement of Requirements*” is in its 4<sup>th</sup> major revision, with recent comments from the Immigration and Naturalization Service and the National Security Agency now being incorporated.

From an international perspective, development of ETSI’s Digital Advanced Wireless Standards (DAWS) is closely paralleling Project 34 and there is significant interaction between the two groups. This interaction is facilitated by a cooperation agreement recently negotiated between ETSI and the Project 25 Steering Committee. In fact, Project 34/DAWS were highlighted in recent negotiation of the Treaty of Amsterdam, a police cooperation agreement between the European Union, the United States and several other nations, as an area where major international cooperation could occur.

#### 4. REQUEST FOR MODIFICATIONS

Before allowing the Regional Planning Committees (RPCs) to begin their planning processes, the HSD channel plan and assignments must be reconsidered by the Commission. Such reconsideration should go beyond the current block of wideband channels and consider that some regions will need far more wideband than narrowband channels, as will be discussed in other Petitions.

The Commission must meet with knowledgeable members of the manufacturing, system integration and public safety communities to discuss in detail the possible solutions and their long-term ramifications on this subject. Modifications must be made to the channeling plan to permit development of a national public safety HSD network, while at the same time allowing maximum flexibility to the RPCs to implement both narrow and wideband channels in the most appropriate manner for their regions. To let the current R&O stand will be of great long-term disservice to

public safety users and to the citizens they serve.

5. CONCLUSIONS

For the reasons set forth above, the Commission must reconsider, in the manner described herein, its Report and Order.

Respectfully submitted,

John S. Powell