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Federal Communications Commission
Washington, D.C. 20554

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| The Development of Operational, | ) | |
| Technical and Spectrum Requirements | ) | |
| For Meeting Federal, State and Local | ) | WT Docket No. 96–86 |
| Public Safety Agency Communication | ) | |
| Requirements through the Year 2010 | ) | |
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To: The Commission

**EX PARTE COMMENTS OF THE PUBLIC SAFETY WIRELESS NETWORK (PSWN) PROGRAM**

Filed by: The Public Safety Wireless Network Program

Date: January 13, 2000

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**EX PARTE COMMENTS OF THE PUBLIC SAFETY WIRELESS NETWORK (PSWN) PROGRAM**

1. The Public Safety Wireless Network (PSWN) Program Executive Committee (EC) respectfully submits the following ex parte comments regarding the Commission's First Report and Order *In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010* (1st R&O).[1] In the 1st R&O, the Commission directly addresses a number of issues that are of great interest to the PSWN Program. The PSWN Program continues to investigate such wireless communications issues with direct impact on public safety agencies. Through these ex parte comments, the EC hopes to bring the benefits of its perceptions to the Commission as it decides the matters raised in the 1st R&O.

[1] See *In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010,* WT Docket No. 96–86, FCC 98–191 (rel. September 29, 1998).

## I. STATEMENT OF INTEREST

2. The PSWN Program is a federal initiative operating on behalf of all local, state, and federal public safety agencies. The Department of Justice and the Department of the Treasury are jointly leading the PSWN Program's efforts to plan and foster interoperability among public safety wireless networks. The PSWN Program is a 10–year National Partnership for Reinventing Government (NPRG) initiative.[2] The NPRG, previously known as the National Performance Review, is an effort to reengineer how government provides services to citizens through more effective use of information technology and through more concerted partnership efforts among government at all levels.

3. Consistent with the NPRG, and in concert with the public safety community, the PSWN Program hopes to achieve a shared vision of interoperability–seamless, coordinated, and integrated public safety communications for the safe and efficient protection of life and property.[3] The PSWN Program is developing partnerships and working closely with the public safety community throughout the first five–year phase of the program to develop a comprehensive implementation plan for interoperability among wireless networks.[4] The program is in its third year and recently passed the halfway mark of the first phase. During the second five–year phase, the program will assist the public safety community with its implementation of interoperability in accordance with the national plan.[5]

4. In December 1996, the *PSWN Program Management and Organization Document (PMOD)* noted the need to establish an advisory committee to provide advice and guidance to the PSWN Program Management Office (PMO) as it worked to achieve the program goals and

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[2] *See* the Public Safety Wireless Network NPRG booklet (submitted with the PSWN Program Comments, WT Docket No. 96–86), which contains a general overview of NPRG initiatives, as described by the Vice President; copies of NPRG action items IT04 (for establishing a national law enforcement/public safety network) and A06 (for establishing the intergovernmental wireless public safety network); and a one–page summary of the PSWN Program vision and mission.

[3] *See* the *PSWN Program Strategic Plan*, April 1998 (submitted with the PSWN Program Comments, WT Docket No. 96–86) at page 2.

[4] The information obtained and developed by the PSWN Program through its activities is openly available via the program's web page at http://www.pswn.gov.

[5] *See* the *PSWN Program Strategic Plan*, at pages 5, 9, and 10 for information regarding the PSWN Program phases (e.g., their definitions, relative timing, and types of activities within each phase).

objectives.[6] The PSWN Executive Committee (EC), originally known as the Senior Advisory Panel, was thereby established in September 1998.[7] The purpose of the EC is to raise awareness, collectively and individually, through targeted interactions and affiliations with the public safety community and other key controlling players, such as vendors, standards and regulatory bodies, and senior government officials. The EC is also tasked with providing guidance to the PSWN Program in order to ensure that its activities contribute constructively and significantly towards the implementation of interoperable solutions.

5. Consistent with its NPRG charter, and building on the findings of the Public Safety Wireless Advisory Committee (PSWAC), the PSWN Program, through the EC, has made spectrum one of its priority areas of activity.[8] In an effort to help resolve open spectrum issues and realize improvements in this area, the PSWN Program has undertaken several spectrum–related activities.[9] These activities are designed to raise awareness, improve understanding of processes and policies, and analyze issues in more specific detail as appropriate. They include making direct contributions to this and other Commission proceedings related to public safety spectrum. Therefore, any development affecting public safety communications, particularly those related to use and management of the 24 Megahertz (MHz) of spectrum in the 764–776 and 794–806 MHz bands ("The 700 MHz Band"), reallocated pursuant to the Balanced Budget Act of 1997,[10] directly and significantly interests the EC.

6. The EC, on behalf of PSWN, is pleased to offer these ex parte comments in regard to the 1st R&O, which addresses public safety's future participation within the 700 MHz band. Furthermore, the results of this proceeding could impact public safety's ability to receive additional needed spectrum in the future, to include the 73.5 MHz identified by the PSWAC.[11]

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[6] *PSWN PMOD*, December 1996.
[7] *PSWN Senior Advisory Panel Briefing*, July 1, 1998.
[8] *See* the PSWN Program Comments (WT Docket No. 96–86) at paragraphs 5 and 6. The PSWN Program has identified six key spectrum issues that require resolution for improving public safety radio communications: insufficient aggregate amount of spectrum, excessive number and undetermined appropriateness of frequency bands, insufficient interoperability spectrum, lack of affordable multi–band technology, complicated spectrum management processes, and lack of a migration strategy.
[9] *Ibid.* Para. 7.
[10] 47 U.S.C. § 337.
[11] *Public Safety Wireless Advisory Committee (PSWAC) Final Report*, September 11, 1996, at p. *3*.

As an entity working on behalf of public safety, the PSWN Program determined that it would best serve the community by reserving comments for specific public safety issues raised by commenters, as well as in light of the ongoing work of the Public Safety National Coordination Committee (NCC). The PSWN Program offers these ex parte comments to do so.

7. The PSWN Program will address the following areas in its ex parte comments to comments filed to the 1st R&O: co–equal access to nonfederal spectrum by federal users, trunking on interoperability channels, and the adoption of a baseline standard for interoperability.

## II. CO–EQUAL ACCESS

8. The Commission has long recognized co–equal as a significant issue. In the 1st R&O, the Commission stated that, "Although we conclude herein that Federal entities are ineligible for Commission licensing in the 700 MHz band, they are eligible to receive authorization to use this spectrum in accordance with the requirements set forth in Section 2.103 of our rules for Government use of non–Government spectrum."[12] These provisions have been defined as including the authorization of federal stations to use nonfederal bands for interoperability purposes or as part of a shared or joint–use system operated under the terms of partnership between federal entities and the state and/or local entities that hold licenses.[13]

9. The PSWN Program advocates this interpretation of Section 2.103 because it would facilitate a fair and equitable sharing of resources and ensure protection of prospective users' investment in systems and equipment designed to operate on the shared frequencies. The program believes co–equal access will help ensure a cooperative partnership between state, local and federal users to achieve interoperability.

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[12] *See*, 1st R&O, *supra*, at Para. 68.
[13] *See* Federal Law Enforcement Wireless Users' Group (FLEWUG) Ex Parte Comments, WT Docket No. 96–86, September 16, 1999.

10. At the NCC meeting in Lansing, Michigan, September 24, 1999, Mr. Steve Proctor, the EC Executive Vice Chair, presented a proposal affirming the PSWN Program's endorsement of co–equal access and seeking the support of the NCC. Mr. Proctor's proposal was supported by all subsequent discussion,[14] with no opposition voiced by any of the organization's members.

11. Therefore, PSWN Program respectfully requests that the Commission affirm the above–described interpretation of Section 2.103 and to reinforce its support for co–equal access. The EC is convinced that doing so would serve the public interest by fostering interoperability and ensuring equitable utilization of valuable (and finite) spectrum and other resources.

## III. TRUNKING ON INTEROPERABILITY CHANNELS

12. In the Second Notice of Proposed Rulemaking, the Commission sought comments on whether to mandate trunking on the interoperability spectrum or to permit individual regions to decide if they preferred to employ conventional or trunked operations.[15] Based on the responses received, the Commission refrained from making a final decision in the subsequent Report and Order and tasked the NCC to consider the issue and provide recommendations as to whether trunking on interoperability spectrum should be required.[16] At the NCC meeting in New York, New York, November 19, 1999, the interoperability subcommittee presented its recommendation to the members in attendance, including the steering committee. After considerable deliberation, the interoperability subcommittee recommended that trunking should not be mandated on the interoperability channels in the 700 MHz band.

13. Recognizing the implications of such a mandate on state and local public safety operations, the PSWN EC has been carefully considering the suggestion at its meetings. The

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[14] Forestry-Conservation Communications Association (FCCA), the Association of Public Safety Communications Officials-International (APCO), and the American Association of State Highway and Transportation Officials (AASHTO) supported the position on co-equal access at the September 24, 1999, NCC meeting.

[15] *See* Second NPRM, *In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010,* WT Docket No. 96–86 (rel. September 29, 1998) at Para. 102.

[16] *See* 1st R&O at Para 116.

PSWN Program applauds the Commission's continued commitment to public safety by designating channels specifically to meet interoperability requirements and seeking recommendations from the NCC and the public safety community concerning operational rules of this spectrum. While the PSWN Program understands that the use of trunking technology in public safety communications could result in spectral efficiency, it feels that a nationwide mandate would potentially impede the development of interoperable systems in some regions of the country. The PSWN Program understands that these channels were designated with the intent of facilitating interoperable communications across agencies regardless of the operational technologies employed at the local level. However, a trunking mandate contradicts this idea and limits the use of interoperability spectrum to the minority of public safety agencies that currently use trunking technology.

14. In addition, the PSWN Program feels that mandating the use of trunking technology could impede interoperable communications by unnecessarily complicating the coordination requirements of public safety communications during situations where every second is critical to the protection of life and property, and the welfare of public safety personnel. For example, when a public safety officer responds to a mutual aid request from a neighboring jurisdiction that employs trunking technology, they must be registered on that system in order to have access to the communications critical in an emergency situation. Routinely this is a manual process that adds significant delay to the response time of public safety officers resulting in slower and less efficient public safety operations. This is true even if the responding officer normally operates on a system that uses the same trunking protocols.[17]

15. Based on the user limitations and the time constraints that would result if the Commission mandated trunking on the channels designated solely for interoperability purposes, the PSWN Program urges the FCC not to require nationwide trunking on the interoperability channels. As the program continues to study and monitor the complexities of the issue, it urges the FCC to carefully consider any recommendations that arise from the deliberations of the NCC regarding trunking on the interoperability channels.

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[17] NCC *Second Quarterly Report*, November 26, 1999 pp. 2–3.

## IV. ADOPTION OF A DIGITAL INTEROPERBILITY STANDARD FOR PUBLIC SAFETY RADIO COMMUNICATIONS

16. A critical early step in making the 24 MHz of spectrum in the 764–776 and 794–806 MHz bands available for public safety use involves establishing procedures related to the use and management of the 2.6 MHz of interoperability spectrum designated thereon.[18] Specifically, the Commission must approve a single baseline standard for interoperability. This standard will be essential in migrating critical LMR and other narrowband services to the 700 MHz band, and allowing public safety communities at all levels of government to interoperate both on a regular and contingency basis thereafter. It will allow vendors to develop, and users to evaluate and type–accept, equipment designed for optimal performance on the 700 MHz and adjacent bands. Moreover, it will facilitate standardization between and among vendors that will allow both for economies of scale, and simplicity of operation between and among manufacturers. For these reasons, the PSWN Program asserts that a baseline standard should be adopted at the earliest opportunity.

17. Currently, there are two standards to consider. The American National Standards Institute (ANSI)/Telecommunications Industry Association (TIA)/Electronics Industry Alliance (EIA) Project 25 (TIA/EIA–102 [Project 25]), an FDMA, analog–compatible standard was developed in the U. S. over the past ten years with direct involvement by the public safety community. The Terrestrial Trunked Radio Access (TETRA) standard, also referred to as the "Trans European" Trunked Radio, was developed by the European Telecommunications Standards Institute, a counterpart to ANSI;[19] it includes the ETSI 392 (TETRA) TDMA and ETSI 396 (TETRA DMO) analog standards.

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[18] *See* 1st R&O, *supra.*
[19] NCC *Second Quarterly Report, supra,* at p.3.

18. The primary arguments in support of Project 25 involve existing, and exclusive, ANSI approval, as well as "backward compatibility" with current and near–term operational systems and equipment. The EC considered this at their recent meeting. Specifically, and in contrast to TETRA, attendees observed that there is already an embedded base among the U.S. public safety user community for Project 25 compatible equipment.[20]

19. At the most recent meeting of the NCC in New York, the NCC Technology Subcommittee worked through a detailed evaluation matrix on the 700 MHz baseline standard for interoperability.[21] This included such factors as the use of FDMA versus other technologies, "open process" and intellectual property considerations, the use and availability of type accepted technology on the market, vocoder and encryption standards, the availability of at least one voice channel per 6.25 kHz channel width. An informal survey of equipment manufacturers present at this meeting, which included Motorola, Ericsson, and E. F. Johnson, revealed that none of the companies currently has 6.25 kHz equipment available in the U. S. market. Although none would predict conclusively, no company present indicated that they anticipated bringing such products to market within the next five years.[22] Based on these factors, the Technology Subcommittee thereafter recommended adoption of the ANSI/TIA/EIA 102 BAAA–1998 Frequency Division Multiple Access (FDMA) Common Air Interface (CAI) standard and the ANSI/TIA/EIA 102.BABA–1998 Vocoder Description standard for radio communications, which is based on a 12.5 kHz channel.[23]

20. The NCC Technology Subcommittee Narrowband Voice Standards Working Group has also conducted a detailed technical evaluation of both standards.[24] It concluded that TIA/EIA–102 (Project 25) for 12.5 kHz channel width was the preferred standard, because the reduced power output of TETRA was, "not conducive to unit–to unit communication in activity that is spread over some distance or where in–building penetration is required. TIA/EIA–102 (Project

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[20] PSWN EC meeting, Orlando, Florida, December 17, 1999.
[21] NCC Technology Subcommittee meeting, New York, New York, November 18, 1999.
[22] *Ibid.*
[23] *Ibid.*
[24] Memo from Robert F. Schlieman, Chairman, NCC Technology Working Group #2 – Narrowband Voice Standards, to Michael Wilhelm, Designated Federal Officer – Public Safety National Coordination Committee, Re: 700 *MHz Baseline Standard Common Air Interface for Narrowband Interoperability Channels*, December 20, 1999.

25) for 12.5 kHz channel width afford the use of an FDMA infrastructure that would be necessary for coordination of field resources and to provide extended coverage for large scale event."[25] The analysis also observed that TDMA technology was more complex than FDMA.[26]

21. Recent comments by the federal public safety community have recently urged the Commission to formally adopt TIA/EIA–102 (Project 25) vocoder and CAI interoperability standards for public safety wireless radio communications.[27]

22. Based on the information available, the importance of a digital standard for improving interoperability, and the need to move forward, the PSWN EC, like the NCC technology subcommittee and many other commenters to the 1st R&O, recommends that the Commission adopt the ANSI/TIA/EIA 102 BAAA–1998 Frequency Division Multiple Access (FDMA) Common Air Interface (CAI) standard and the ANSI/TIA/EIA 102.BABA–1998 Vocoder Description standard for public safety radio communications.

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[25] *Ibid.*
[26] *Ibid.*
[27] *See* FLEWUG Ex Parte Comments, WT Docket Nos. 99–168 and 96–86, December 10, 1999.

## V. CONCLUSION

23. The PSWN Program requests that the Commission endorse the interpretation of Section 2.103 of its rules to facilitate co–equal access between and involving federal and non—federal users of public safety spectrum.

24. The PSWN Program asserts that the Commission should not mandate trunking on the interoperability channels.

25. The PSWN Program recommends that the Commission adopt the ANSI/TIA/EIA 102 BAAA–1998 Frequency Division Multiple Access (FDMA) Common Air Interface (CAI) standard and the ANSI/TIA/EIA 102.BABA–1998 Vocoder Description standard for public safety radio communications.

26. The EC commends the efforts of all commenters to this R&O and respectfully requests the Commission to carefully consider the PSWN Program's positions herein submitted in light of the commentary of others. The PSWN Program respectfully reminds the Commission of the importance interoperability to public safety operations and their original reasoning for designating a segment of public safety spectrum to meet this specific need, as well as of its endorsement of measures designed to promote the shared use of spectrum at all levels of government.

Sincerely,

Brigadier General Paul H. Wieck II
Iowa Army National Guard
Chair, PSWN Executive Committee Spectrum Working Group

Before the
Federal Communications Commission
Washington, D.C. 20554

**Certificate of Service**

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I, Joseph Sifer, Senior Associate, Booz·Allen & Hamilton, Inc., 8283 Greensboro Drive, McLean, Virginia, 22102–3838, hereby certify that on this date I caused to be served, by first–class mail, postage prepaid (or by hand where noted) copies of the Public Safety Wireless Network Program's ex parte comments regarding the Commission's First Report and Order *In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010*, the original of which is filed herewith and upon the parties identified on the attached service list.

DATED at Fair Oaks, Virginia this 13th day of January 2000.

Joseph Sifer

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