PUBLIC SAFETY
PSWN PROGRAM
WIRELESS NETWORK

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NOV 9 2001
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

November 9, 2001

P.O. Box 3926
Fairfax, VA 22038
www.pswn.gov
800.565.PSWN

Magalie Roman Salas, Esq.
Secretary
Federal Communications Commission
TW–A325
445 Twelfth Street, SW
Washington, DC 20554

96-86

Re: Ex Parte Meeting Notification

Dear Ms. Salas:

On behalf of the Public Safety Wireless Network (PSWN) Program and the PSWN Executive Committee (EC), and pursuant to Section 1.1204–1.206 of the Commission's Rules, 47 C.F.R. § 1.1204–1.1206 (2000), this is to inform the Commission that on November 9, 2001 Steven Proctor, Raymond Barnes, David Stone and Craig Allen of the PSWN EC and David Pickeral, Booz Allen Hamilton PSWN Program Support, met with Commissioner Kathleen Abernathy and Senior Legal Advisor Bryan Tramont.

"No man, woman, or child should lose his or her life because public safety officials cannot talk to one another."

The primary purpose of the meeting was to discuss items contained in the PSWN Program's *Petition for Rule Making by the Public Safety Wireless Network Program to Promote Allocation of Spectrum for Public Safety Agencies and Other Matters to Address Communications Needs Through 2010*, (Petition) filed September 14, 2001. The Petition was based primarily on the recommendations of the Commission's 1996 Public Safety Wireless Advisory Committee (PSWAC) and was filed in the context of the terrorist attacks on our Nation which had taken place only a few days earlier.

Specifically, the following items were addressed:

I. Allocation of Additional Spectrum–

- Public safety entities still require 73.5 MHz of spectrum to meet their communications needs through 2010

II. Designation of Interoperability Spectrum Across All Bands–

- Allocation of additional interoperability spectrum is required in all bands where public safety communications are conducted
- Designation of interoperability spectrum is needed in existing bands

III. Adoption of Standards–

- Receiver Standards– continue RPC analysis of reference values and fashion appropriate standard
- Interference Standards– adopt the NPSTC "Zero Tolerance of Interference" standard

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IV. Regulation and Use of Spectrum–

- Support efforts by the Chairman in appointing a DTV Task Force to facilitate and expedite band clearance
- Adoption of the 700 MHz band migration plan proposed by APCO
- Priority Access System–Work with the NCS and Richard Clarke to establish a workable PAS with commercial providers to ensure reliable communications in emergency incidents
- Pre–Coordination Database – mandate adoption of this tool on a national basis to identify sources of interference and expedite compliance

In addition to addressing the substance of the Petition, participants also presented a letter stating the PSWN Program's objection to the Commission staff placing the Petition under an existing FCC Docket, WT 96–86, rather than responding to the specific request of the Petition, and doing so without notice.

Copies of the Petition and the letter are attached. Further information concerning the PSWN Program and its activities, as well as its recent publications, are available to the public free of charge via the PSWN Program web site (http://www.pswn.gov), or by calling 1–800–565–PSWN.

Should you require any additional information, please contact the undersigned.

Respectfully submitted,

Brigadier General Paul H. Wieck II Iowa Army National Guard Chair, PSWN Executive Committee Spectrum Working Group	Steven Proctor Executive Director, Utah Communications Agency Network Executive Vice–Chair, PSWN Executive Committee

Cc: Service List (*attached*)

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PUBLIC SAFETY
PSWN PROGRAM
WIRELESS NETWORK

November 9, 2001

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Fairfax, VA 22038

www.pswn.gov
800.565.PSWN

The Honorable Kathleen Abernathy, Commissioner
Federal Communications Commission
445 Twelfth Street, SW, Rm. 8–B115
Washington, DC 20554

Re: Commission Handling of Petition for Rule Making by the Public Safety Wireless Network Program to Promote Allocation of Spectrum for Public Safety Agencies and Other Matters to Address Communications Needs Through 2010, filed September 14, 2001

Dear Commissioner Abernathy:

On September 14, 2001, within days of the terrorist attacks that rocked our Nation and highlighted the need for public safety communications interoperability, the Public Safety Wireless Network (PSWN) Program filed a Petition for Rulemaking (Petition) with the Commission Secretary in accordance with the Commission's Rules. A duplicate of the FCC Docket File Copy is attached.

"No man, woman, or child should lose his or her life because public safety officials cannot talk to one another."

As the Petition clearly and unambiguously stated, the PSWN Program believes that there are a number of issues originally raised in 1996 by the Commission's Public Safety Wireless Advisory Committee (PSWAC) and other issues that require refocused attention by the Commission and others. To that end, the primary purpose of the Petition was the establishment of a new Docket to address these concerns.

However, without any formal action or notice, the Commission staff placed the Petition on an existing Docket, WT Docket 96-86. You will note that a handwritten '96-86' appears on the cover page of the attached Petition. The Commission staff undertook this modification to the Petition subsequent to its filing. The PSWN Program did not request this alteration, nor was it even aware of it until the Commission released the Petition publicly.

Although originally established with a broader scope, WT Docket 96-86 has effectively been limited in recent years to addressing rules for the 700 MHz band public safety spectrum only. The PSWN Program strongly believes that, due to the diversity of issues involved, and the need to address all issues from a fresh perspective, placing the Petition on WT Docket 96-86 or any other previously existing docket is an ineffective substitute for a new Docket.

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More fundamentally, the PSWN Program believes that the Commission's handling of the Petition, with no public notice and without otherwise responding to the substance of the Petition, failed to comply with proper administrative process (e.g. APA §553(a) *et seq.*). Particularly in light of current events, the PSWN Program believes that the Commission's action in this matter presents a severe impediment to the public safety community and its increasingly urgent mission to protect life and property in light of the ongoing terrorist threats to our nation and the need to increase homeland security initiatives at all levels of government.

Accordingly, the PSWN Program requests in the strongest possible terms that you and your staff look into this matter at the earliest opportunity, and take immediate action to correct the situation by creating a new Docket for the petition, advising the public and allowing for comment. Should you have any further questions, please do not hesitate to contact any of the undersigned.

Respectfully submitted,

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

Steven Proctor
Executive Director,
Utah Communications Agency Network
Executive Vice–Chair,
PSWN Executive Committee

Robert E. Lee, Jr.
PSWN Program Manager and
FLEWUG Co-Chair
Department of Justice

Julio "Rick" Murphy
PSWN Program Manager and
FLEWUG Co-Chair
Department of the Treasury

Cc: Bryan Tramont, Senior Legal Advisor

Attachment

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Saving Lives and Property Through Improved Interoperability

96-861

September 14, 2001

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Magalie Roman Salas
Secretary
Federal Communications Commission
TWA325
445 Twelfth Street, SW
Washington, DC 20554

Re: Petition for Rule Making by the Public Safety Wirless Network to Promote Allocation of Spectrum for Public Safety Agencies and Other Matters to Address Communications Needs Through 2010

Dear Ms. Salas:

On behalf of the Public Safety Wireless Network (PSWN) Program and pursuant to Section 1.49 and 1.51 of the Commission's rules, 47 C.F.R. §§ 1.49, 1.51 (2000), enclosed herewith for filing are an original and six (6) copies of the PSWN Program's Petition as styled above.

Kindly date stamp the additional, marked copy of this cover letter and return it to the individual hand carrying the filing.

Should you require any additional information, please contact the undersigned.

Respectfully submitted,

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

Steven Proctor
Executive Director,
Utah Communications Agency Network
Executive Vice–Chair,
PSWN Executive Committee

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Public Safety Wireless Network

Saving Lives and Property Through Improved Interoperability

96-86

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Magalie Roman Salas
Secretary
Federal Communications Commission
TWA325
445 Twelfth Street, SW
Washington, DC 20554

Re: Petition for Rule Making by the Public Safety Wirless Network to Promote Allocation of Spectrum for Public Safety Agencies and Other Matters to Address Communications Needs Through 2010

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

Steven Proctor
Executive Director,
Utah Communications Agency Network
Executive Vice–Chair,
PSWN Executive Committee

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Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)
	)
Petition for Rule Making	)
By the Public Safety Wireless Network	)
To Promote the Allocation of Spectrum	)
For Public Safety Agencies and Other Matters	)
To Address Communications Needs Through 2010	)

PETITION FOR RULEMAKING

To: The Commission

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EXECUTIVE SUMMARY

This Petition for Rulemaking (Petition) is based on the findings and conclusions provided to the Federal Communications Commission (Commission) in the Public Safety Wireless Advisory Committee (PSWAC) Final Report of September 1996 (PSWAC Report). It can be characterized as a progress report, revisiting the issues identified at the request of the Congress. The Petition examines the recommendations made by the Steering Committee at the time the PSWAC Report was submitted and recounts the actions taken by the Commission to resolve the issues that were identified. The Petition then compares the situation at the time of the report with the present status of public safety communications, noting the progress made since the report was published. Finally, the Public Safety Wireless Network (PSWN) Program offers further suggestions to achieve the goals set out in the initial PSWAC Report, as well as addressing additional issues and proposing solutions to meet the challenges that have confronted the public safety community in the interim.

The objective of the Petition, thereby, is to raise or again bring these issues to the attention of the Commission and the public so that action can by taken on them. This Petition first looks at the history of the PSWAC, its mandate and development of the recommendations summarized in its final report. The Petition briefly describes the origins of the PSWN Program and its interest in public safety communications issues. Then, the Petition reviews the WT 96–86 Docket and the actions taken since it was initiated in addressing the needs and requirements of the public safety community as demonstrated in the PSWAC Report. It also evaluates the status of the migration from analog television to digital television (DTV), which will provide

public safety agencies with some of the spectrum identified to meet the foreseeable communications demands.

In addition, the Petition embraces issues taken up by the Commission on other dockets and attempts to refocus on some issues that have not been resolved and require further consideration. It emphasizes the need for the additional 71 megahertz (MHz) of spectrum for public safety services as recommended by the PSWAC to address the remaining shortage of spectrum for high-speed data, video, and other emerging applications. The Petition requests identification and allocation of critical interoperability spectrum for public safety operations in all frequency bands. It also describes other strategies for improving spectral efficiency, including block allocations of public safety spectrum, and planning and management recommendations.

In the Petition, the PSWN Program offers a review of standards, including the Project 25 standard and migration plan that the Commission has endorsed for the 700 MHz band. The PSWN Program also discusses the establishment of various other standards by the Commission, including receiver standards, and development of a strict interference standard to ensure public safety communications and personnel do not suffer because of commercial applications and other foreseeable sources of interference.

Finally, the Petition undertakes an objective inquiry regarding the regulation and use of spectrum as it applies to public safety communications and services. The PSWN Program evaluates the advisory and management processes, and the contributions provided by state and

regional authorities in planning and direction of public safety operations. The Petition also looks at procedures that affect the public safety community and a priority access plan to help coordinate activity in emergency situations.

The PSWN Program advances this Petition to address the concerns of the public safety community and reassesses the need for protection of vital communication functions. The tragic terrorist attacks on our Nation have just underscored the criticality of these functions. The PSWN Program offers the recommendations incorporated within this document in the spirit of cooperation and assistance between the public safety community and the Commission, and anticipates that it will engender further investigation and discussion for a productive exchange of ideas. The PSWN Program looks forward to further discourse and the development of concrete plans and strategy to accomplish objectives that will benefit the public safety agencies and the people they serve, and advance the interest of public safety and better protection for all.

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)
	)
Petition for Rule Making	)
By the Public Safety Wireless Network	)
To Promote the Allocation of Spectrum	)
For Public Safety Agencies and Other Matters	)
To Address Communications Needs Through 2010	)

I. INTRODUCTION

1. The Public Safety Wireless Network (PSWN) Program[1] hereby respectfully petitions the Federal Communications Commission (Commission) to initiate a new docket pursuant to Sec. 1.401 of Title 47, Code of Federal Regulations, et seq., addressing the remaining issues that relate to recommendations made in the Public Safety Wireless Advisory Committee (PSWAC) Final Report (PSWAC Report). The PSWN Program is concerned that, despite significant progress in a number of areas addressed in that report, important issues remain to be addressed and acted upon by the Commission. The consequences of not doing so have the potential to seriously hamper public safety communications in the first decades of the 21st century.

[1] The PSWN Program is a federally funded 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 initiative that is an effort to ensure that no man, woman, or child loses his or her life because public safety officials cannot talk to one another.

A. Background

2. In 1993, the Congress directed the FCC to perform a study of state and local public safety spectrum requirements through the year 2010. The report submitted by the Commission on February 9, 1995, did not contain any specific conclusions or recommendations, but did advise that additional investigation was appropriate. To address U.S. House Appropriations Subcommittee concerns regarding whether the Commission's Report and Plan was an adequate response to the Omnibus Budget Reconciliation Act of 1993 (OBRA 93), the FCC and National Telecommunications and Information Administration (NTIA) leadership established the PSWAC. The PSWAC was conceived as a joint advisory committee to investigate public safety spectrum issues and to provide recommendations for fulfilling public safety wireless telecommunications needs through the year 2010.[2]

3. The PSWAC was chartered under the Federal Advisory Committee Act on June 25, 1995. The PSWAC members were communications professionals from the public and private sector who served on five distinct subcommittees, focusing on the following policy areas: Operational Requirements, Interoperability, Technology, Spectrum Requirements, and Transition. The PSWAC members were asked to examine the status of wireless communication needs of local, state, and federal public safety organizations. The committee's recommendations were to take into account the relevant concerns of public service providers, equipment manufacturers, commercial service providers, and the general public in an effort to enhance public safety capabilities.

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[2] See *Public Safety Wireless Advisory Committee (PSWAC) Final Report, September 11, 1996* at para. 1.9.

4. On September 11, 1996, the PSWAC submitted a comprehensive report detailing its recommendations on behalf of the public safety community. The PSWAC Report represented the efforts of the public safety community "to define and document its critical need for communications resources and the spectrum which will support them—now and through the year 2010."[3] The PSWAC Report summarized issues related to the development of standards and procedures that would guide the Commission in future Rulemakings to fulfill the needs of law enforcement, fire, rescue, medical, emergency management, and other functions dedicated to the protection of life and property. The primary goal of the PSWAC Report, in keeping with the intentions of the Congress, was to ensure that public safety providers would be able to implement the latest and most effective communications technology in support of their mission-critical functions.

B. Statement of Interest

5. Shortly after the submission of the PSWAC Report, the PSWN Program was established. Chartered as a joint initiative of the Department of Justice and the Department of the Treasury, the PSWN Program was envisioned as a collaboration of entities from the local, state, and federal public safety community, as well as private sector interests including manufacturers and vendors of wireless equipment. This diverse membership has successfully worked together to heighten national awareness of public safety issues and address mutual concerns with the appropriate authorities. Since then, the PSWN Program has striven to advocate the needs of the public safety community and to advise both the public and decision makers at all levels of government in its efforts to promote public safety interoperability and supplement the collective and individual capabilities of local, state, tribal, and federal public

[3] *Id.*, at page 1.

safety entities. The tragic events of September 11, 2001 have underscored the need for public safety response and coordination on a massive, unprecedented scale.

6. Many entities in both the public and private sectors urgently require new spectrum to support a variety of current and emerging wireless applications. The PSWN Program acknowledges the challenges the Commission faces and recognizes the conscientious consideration demonstrated in responding to these often-conflicting requirements and priorities. Even in petitioning the Commission for a Rulemaking, the PSWN Program is mindful of the careful balance, indicated in the PSWAC Report, between establishing rules and procedures and allowing flexibility so that public safety agencies have "substantial discretion to determine the most efficient and effective means to transmit information."[4] In the WT 96–86 docket, the Commission sought to address the many issues surrounding this complicated conversion and transition. However, regardless of the broad cross-section of public safety members who have provided comment and support, important milestones have not yet been met and the television broadcasters are in danger of not meeting the deadline for completing migration to digital television (DTV).

7. As a component of its ongoing mission, the PSWN Program considers it essential to remind the Commission of the necessity of addressing all issues covered in the PSWAC Report, noting that each one had been identified as critical to the success of public safety communications. The PSWN Program is grateful for the significant progress that the Commission, working closely with the public safety community, has made in the 5 years

[4] See *PSWAC Final Report*, at para 1.17.

since the release of the PSWAC Report. However, many of the concerns raised in the PSWAC Report have yet to be addressed to the extent necessary to meet the requirements for public safety communications.

8. Heightened use of finite spectrum resources by radio and television broadcasters, commercial cellular and personal communications service providers, private land mobile radio and commercial mobile radio system networks, wireless local area networks (WLANS), and many other wireless applications has created issues of interference and compatibility, particularly in high-density urban areas. The lack of dedicated spectrum and an absence, in many instances, of clear standards to promote cooperation among manufacturers makes interoperability among various local, state, and federal agencies' systems problematic in many situations. These include both dedicated public safety networks, as well as the commercial wireless networks used by emergency medical, fire, and rescue personnel on a subscriber basis. These systems are often widely scattered on many different frequency bands. These factors continue to make communication between these disparate groups difficult, and at times impossible, in mission-critical emergency operations, as well as daily use scenarios. New and emerging generation communications technologies remain expensive and difficult to implement, may not have clearly articulated standards, may not be compatible with legacy systems, and present their own intricacies in supplementing or supplanting deployed communications systems.

9. These issues highlight priorities that the Commission has not completely reconciled. This Petition reviews some of the Commission's rulings and orders that have

affected the ability of the public safety community to provide timely and effective services to meet present needs and those in the foreseeable future.

10. While encouraged by the allocation of 24 MHz of spectrum in the 700 MHz band, and other rulings and decisions where the Commission has been receptive to the need of the public safety community, the PSWN Program respectfully reminds the Commission that some recommendations of the PSWAC Report have not been satisfied. Thus far, the Commission has—

- Provided additional spectrum in the 700 MHz band
- Identified some interoperability spectrum below 512 MHz
- Designated the Project 25 Standard for 700 MHz interoperability channels
- Selected encryption standards for 700 MHz interoperability channels
- Authorized trunking on public safety channels
- Authorized co-equal access.

These actions have enhanced the ability of local, state, and federal public safety personnel to perform their responsibilities more safely and efficiently.

11. The public safety community still has an urgent need for consideration and action by the Commission regarding the following initiatives:

- Additional spectrum for implementation of data and video applications
- Additional interoperability channels below 512 MHz
- Receiver standards
- Interference standards

- Priority access
- Mandatory use of a national interoperability pre-coordination database.

Accomplishment of these initiatives will allow the public safety community to meet the anticipated communications needs envisioned by the PSWAC Report in 1996. Furthermore, many of these initiatives address problems that have come to light in the interim, such as interference standards, which reflect the effects of emerging technology and the real-life threat to public safety communications when new applications crowd the market and compete for limited and valuable spectrum. Having worked with public safety providers at all levels of government to address these issues, the PSWN Program is pleased to offer this Petition to reiterate public safety priorities and recommend strategies for the Commission to enable these entities to achieve the goals and carry out the responsibilities to which they are dedicated.

II. THE URGENT NEED FOR MORE SPECTRUM

A. Status of the 700 MHz Band/Digital Television Transition

12. The Balanced Budget Act of 1997 (BBA 97) directed the Commission to set aside 24 MHz in the 700 MHz band for public safety services,[5] between 746 MHz and 806 MHz. This spectrum was reallocated by the Commission in January 1998, setting aside the 764–776 MHz and 794–806 MHz bands for public safety use, following migration of former ultra high frequency (UHF) television channels 63, 64, 68, and 69 from analog to digital service. Out of this initial allocation, 2.6 MHz from the 700 MHz band has been designated for interoperability purposes. An additional 2.4 MHz of the band is also designated for state licensing.

[5] See *H.R. 2015 BBA 97(BBA 97), Sec. 3301 (a) (47 CFR 337(a)(1))– Allocation and Assignment of New Public Safety and Commercial Licenses.*

13. Although designated for public safety services, the 700 MHz band may not be available for several years due to the delay in transitioning to new DTV channels. Several important limitations were put on the use of this band to prevent the public from being denied services because of this transition. Public Law 105–33, Section 3004, established that in markets without sufficient DTV service, analog television could continue to operate after December 31, 2006:

(i) If one of the four major broadcasting networks (i.e.; ABC, CBS, FOX, or NBC) had not constructed a DTV station;

(ii) If digital to analog converters were not available; or

(iii) If less than 85 percent of all households did not have at least one television capable of receiving digital service (i.e., DTV set, set–top box, cable service).[6]

14. Thus far, the transition by broadcasters from analog to digital services is not occurring as quickly as anticipated. The cost of DTV equipment remains substantially higher than analog TV sets, and sales of DTV equipment to consumers have been very slow. Penetration quotas for DTV service in major and secondary markets still have not been met. There are no incentives for broadcasters to achieve early compliance. Hence, the December 2006 deadline remains in jeopardy. The public safety community cannot realize any advantage from this allocated spectrum unless and until these channels have been cleared. It is essential that the Commission facilitate access to the 746–806 MHz band to permit public safety users to use this band as soon as possible.

---

[6] See PSWN Program Spectrum Issues and Analysis Report, *Public Safety Radio Frequency Spectrum, Digital TV Transition Status, February 2001*, at page 5.

15. For that reason, any efforts by the Commission to encourage and reward incumbents in that spectrum band to migrate before December 31, 2006, would significantly benefit the public safety community. As the PSWN Program has observed, a number of compelling proposals have been offered by various groups regarding potential schemes whereby incumbent commercial broadcasters would vacate the 700 MHz band earlier than the statutory mandate.[7] Without advocating the merits of any particular plan, the PSWN Program notes that such band clearance initiatives would improve the commercial viability of the band and would have the secondary benefit of allowing public safety to begin using its spectrum sooner than the 2006 deadline. Such additional time could be spent testing equipment and processes in advance of deployment so that technical and practical considerations could be resolved without potentially endangering users in the field. Many steps could be taken to motivate completion of this process by the conclusion of 2006. First, the Commission could promote commercially sponsored voluntary band clearing agreements.[8] Secondly, the Commission could issue a mandate to require all new televisions sold in the United States to be digitally capable. Finally, the Congress could set the December 31, 2006, as a firm date for the end of analog transmissions on channels 60–69.[9] Any of these actions would not only free up the spectrum for public safety use, but for commercial use as well.

16. The current allocations in the 700 MHz band do not provide sufficient bandwidth to support other necessary requirements for public safety services such as broadband data and

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[7] See *PSWN Program Ex Parte Letter, WT 99–168*, June 2, 2000, at page 2.

[8] See *3rd Report and Order (R&O), WT 99–168*, at paras. 54–56.

[9] See *Letter of Former FCC Commissioner Kennard to Honorable Ernest Hollings*, January 19, 2001, at pages 2–3.

video.[10] These and other non-voice applications, using current and emerging technology, require a combination of wider channels and higher throughput.

B. Identification and Allocation of Additional Spectrum

17. While the 24 MHz of spectrum allocation under BBA 97 is acknowledged as a positive step within the public safety community, it has only addressed a fraction of the spectrum needs identified by the PSWAC Report, which recommended that the Commission provide a total of 97.5 MHz of additional spectrum for public safety services to meet the current and foreseeable requirements for wireless communications through the year 2010. This means that a total of 73.5 MHz of spectrum is still needed. Approximately 71 MHz is still required to meet the need for emerging high-speed data and video applications, while the remaining 2.5 MHz is required for interoperability. The PSWN Program is confident that the Commission will undoubtedly continue its active pursuit relative to the *additional* 73.5 MHz required for public safety use as outlined within the PSWAC Report.

18. The PSWN Program notes that the greatest spectrum need of public safety wireless communications is for bandwidth to support low-speed data, high-speed data, and video. These capabilities, incorporating the latest technologies, would allow local law enforcement, fire, and emergency management service personnel to employ the quickest and most informed approach in performing their mission.

19. The PSWN Program has submitted comments to the Commission recommending

[10] See *International Association of Chiefs of Police (IACP) Reply Comments, WT 00–32*, at page 2.

the 4.9 GHz band as appropriate for these emerging technologies.[11] More recently, other parties have submitted comments to the Commission recommending the assignment of the band for public safety wireless communications operations.[12] The PSWN Program endorses such an allocation of spectrum to help meet the public safety community's growing needs. As others submitting comments to that docket have pointed out, "Although unlicensed consumer oriented broadband technologies are on the horizon in the nearby 5 GHz band, public safety agencies cannot rely on unlicensed spectrum for our mission critical applications. We must have dedicated spectrum and systems that assure the safety of our personnel via immediate priority access, uninterrupted transmissions, and guaranteed coverage and reliability. The proximity of this unlicensed band to the proposed public safety 4.9 GHz allocation allows us to leverage such standards based broadband technologies and yet have the dedicated, reliable, secure, and enhanced featured broadband solution that we require."[13] By allocating this broadband spectrum for public safety, the Commission will enable those agencies and services to support three emerging applications:

(a) Personal Area Network/ Vehicular Area Network (PAN/VAN) systems

(b) WLAN systems for on-scene and Incident Command System responses

c) Wireless fixed "hot spot" locations for high-speed public safety intranet file downloading and uploading of large data, image, and video files.[14]

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[11] See *PSWN Program Reply Comments to NPRM, WT 00–32*, at pages 3, 4.

[12] See, e.g., *4.9 GHz Allocation to Public Safety: Motorola White Paper for Submission to FCC, WT 00–32,* July 31, 2001.

[13] City of Detroit Department of Police, *Ex Parte Letter, WT 00–32,* Aug. 7, 2001, at page 2.

[14] See, e.g., *4.9 GHz Allocation to Public Safety: Motorola White Paper for Submission to FCC (Motorola White Paper), WT 00–32,* July 31, 2001, at page 2.

C. Block Allocations of Public Safety Spectrum

20. The PSWAC Report called for the Commission to allocate blocks of spectrum for use by public safety entities. The PSWAC Steering Committee stated that "...the current method of allocation, focused primarily on narrow banding, does not provide the Public Safety community the flexibility of selecting or obtaining the most spectrally efficient technology to meet user defined requirements."[15] The PSWN Program asserts that the Commission should designate larger blocks of spectrum to optimize its uses and improve efficiencies, as was also maintained in the PSWAC Spectrum Requirements Subcommittee Summary.[16]

21. The Federal Law Enforcement Wireless Users Group (FLEWUG) supported the revised adoption of the Public Safety National Coordination Committee's (NCC) proposed band plan that was configured so that four 6.25 kHz channels could be aggregated into 25 kHz.[17] The PSWN Program notes that the third Memorandum of Opinion and Order (MO&O) provides for such aggregation into the band plan.[18] The PSWN Program agrees that this plan would allow for more efficient and economical use of the 700 MHz band with less interference between interoperability channels, or with adjacent general use or reserve channels. This same principle would apply to management of future allocations as well.

22. For effective use of the public safety spectrum, there should be block allocations to accommodate wideband channel needs. The PSWN Program requests these block allocations

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[15] See *PSWAC Final Report*, at para 2.2.3.
[16] *Id.*, at para. 4.4.14.
[17] See *FLEWUG Reply Comments to 4th Notice of Proposed Rulemaking (NPRM), WT 96–86*, at paras. 16, 17.
[18] See *3rd M, O & O*, at para. 28.

because they would help consolidate future public safety communications in a few key bands, generate complementary market forces, and allow for the implementation of advanced technology. The PSWN Program is well aware that it would be both fiscally and physically impossible to move all public safety wireless communications to a single band of spectrum. However, large block allocations would support the deployment of new technologies that require greater bandwidth to transmit large amounts of critical data at highly efficient rates.[19] Low-speed data, high-speed data, and video require substantially greater bandwidth per channel then voice transmissions, and public safety agencies will increasingly require these new technologies to successfully complete their missions. Dedicating larger blocks of spectrum is the only way to effectively implement these technologies. Block allocations enhance the ability to dedicate common channels to interoperability, allowing agencies to communicate more easily in emergency situations or in day-to-day activities. Finally, the block allocations will allow different technologies and more agencies to use on the same bandwidth. Therefore, the block allocations create a larger consumer market and greater technological flexibility that would generate more competition.

D. Additional Spectrum for Public Safety Interoperability Across Multiple Bands

23. Although the Commission has allocated spectrum for interoperability in the 700 MHz band, the public safety community needs additional spectrum to enable multiple agencies to coordinate responses quickly and efficiently. Because the 2006 DTV transition

[19] See *PSWAC Final Report,* at para. 4.2.41.

deadline is a conditional one, some incumbent broadcasters may *never* be required to clear this spectrum. This circumstance would leave agencies in many densely populated urban areas, where public safety services are most critical, such as Los Angeles, CA, and Dallas, TX, without sufficient resources to communicate.[20] Many areas are already experiencing deficiencies in spectrum, and even with access to the 700 MHz band interoperability channels, cannot meet current needs, much less the foreseeable communications requirements for the next decade.

24. The allocation of additional interoperability spectrum is important primarily because of the emergence of new, innovative, life-saving technologies that will likely require greater bandwidth to function optimally. As mentioned by the Commission within its Second Notice of Proposed Rulemaking (NPRM),[21] there are presently four recognized types of public safety interoperability communications: voice, data, image/high-speed data (image/HSD), and video. Until recently, the primary focus of spectrum allocation for interoperability has traditionally been voice. The emergence of viable technologies within the remaining types of public safety interoperability communications demonstrates both promise and a greater requirement for bandwidth. The PSWN Program implores the Commission to take into consideration all viable and potential technological applications as it helps shape the public safety community's response to the protection of individuals and property in the course of emergency response measures.

[20] See *PSWN Program Ex Parte Letter, WT 99–168*, June 2, 2000, at page 2.
[21] See *2nd NPRM, WT 96–86,* at para. 46.

25. Again, the PSWN Program reasserts the urgent need for additional interoperability spectrum to be allocated for use by public safety entities in all bands. The bands that have been allocated for public safety agencies and organizations are dispersed throughout the spectrum. The drive to promote interoperability is further undermined by an insufficient number of nationwide interoperability channels to aid agencies involved in responding to multi–jurisdictional incidents. In turn, planning must also encompass providing solutions to public safety dilemmas confronting those agencies involved with initiatives requiring the assistance and cooperation of other sovereign nations at our borders.

26. Another critical action that the Commission took to facilitate interoperability in the 700 MHz band was establishing two nationwide calling channels.[22] These calling channels, created on the recommendation of the NCC, create a critical nationwide link in public safety communications by enabling one agency to hail another. The Commission specified that the designated calling channels would be subject to monitoring 24 hours a day, 7 days a week and would be managed at the state or regional level, noting concurrence with comments submitted by some of the parties contributing to this docket.[23] This is an example of the type of planning and communications coordination that needs to occur for public safety operations below 512 MHz.

27. The PSWN Program has long asserted that interoperability is the key to effective public safety communications. The majority of public safety agencies' wireless radio systems are located below 512 MHz. While the PSWN Program appreciates the efforts of the Commission in designating 2.6 MHz of spectrum for interoperability in the 700 MHz band, the

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[22] See *4th R&O; WT 96–86*, at paras. 65–68.
[23] *Id.*, at footnote 163, page 24.

PSWAC Report identified a requirement for 2.5 MHz of interoperability spectrum in the bands below 512 MHz.[24] The PSWN Program notes that the Commission has recently designated some interoperability frequencies between 150 MHz and 512 MHz.[25]

28. The PSWN Program encourages the Commission to respond to this critical shortfall in this new Rulemaking and respond to the conclusion reached earlier that "separate interoperability channels are needed in the Public Safety Pool below 512 MHz."[26] The PSWN Program recommends an allotment of an additional 1.8 MHz for interoperability to fully meet the present need for these frequencies. This action will allow existing services to fully use the potential for coordinating disparate agencies and systems, and exchanging information more efficiently.

E. Spectrum Planning and Management

29. To successfully plan and manage spectrum dedicated to interoperability will take a coordinated, nationwide effort. This is ably demonstrated by the NCC's initiative to develop rules for use of the 2.6 MHz of spectrum dedicated for interoperability in the 700 MHz band. As with the PSWAC, by convening experienced personnel familiar with all of the intricacies of day-to-day operations, mutual aid situations, and task force events, the Commission could properly develop the regulations and coordination necessary for interoperability. The PSWN Program respectfully reminds the Commission that this extensive planning must continue to fully use the benefits of interoperability while maximizing spectral efficiency.

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[24] See *PSWAC Final Report*, at para. 2.2.1.
[25] See *3rd R&O, WT 96–86*, at paras. 82–94.

30. The PSWN Program continues its unqualified support of the Commission's establishment of the NCC to serve as an advisory body.[27] The NCC has played an important role during its 4-year mandate in developing operational plans and integral standards, as well as providing a vital forum to a broad cross-section of interested parties relative to the use of the 700 MHz spectrum designated for interoperability.[28] The PSWN Program further encourages the Commission to continue to rely upon and use the expertise and experience of the NCC in setting standards and developing further Rulemakings.

31. Within the NCC Charter, the Commission indicated a number of NCC responsibilities relative to forming necessary building blocks to interoperability management. These responsibilities include an operational plan to achieve interoperability; technical standards for interoperability and network integration; and recommendations for trunking on interoperability spectrum, policies to advise regional planning, and other matters relative to deploying interoperable public safety systems.[29] Because of this direction and through interaction with the Commission as well as other collaborators, the NCC has laid the groundwork and guidelines for the successful planning and managing of future interoperability bands.

F. Migration Plan to 6.25 kHz

32. As the identification, development, and usage of spectrum continue to develop, so will the mandate for more efficient use of this finite resource. The PSWN Program notes the Commission has retained the data efficiency requirement of 4.8 kilobits per second (kbps) per

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[26] See *3rd R&O, WT 96–86*, at para. 84.
[27] See *1st R&O; WT 96–86*, at paras. 90–94.
[28] See generally, *PSWN Program Submission for NCC Membership, WT 96–86.*
[29] *Id.*, at para. 7.

6.25 kilohertz (kHz).[30] Although equipment compatible with the 6.25 kHz standard is not yet commercially available in the 700 MHz band, manufacturers are developing hardware to comply with this objective. The Commission's promotion of efficiency will have the far–reaching effect of driving the market to meet this need and will assure its widespread acceptance and usage. Moreover, the PSWN Program concurs with the Commission that upholding the 4.8 kbps per 6.25 kHz standard mandates the most efficient parameter for narrowband data throughput.[31]

33. The PSWN Program also wishes to reemphasize its continuing support of the 6.25 kHz channel migration plan submitted to the Commission by the Association of Public Safety Communications Officials–International, Inc. (APCO). The PSWN Program incorporates by reference previous comments we have filed and comments submitted by other members of the public safety community, to the Commission's Fifth NPRM, WT Docket 96–86.[32] Although this five-step, 21-year plan has been criticized as being too slow, it provides realistic goals and milestones for achieving migration of the general use channels in an orderly, deliberate manner. With proper planning, it will not need to be revisited with the next wave of technological breakthroughs. In addition, it will potentially allow for pooling of public safety resources to take advantage of economies of scale in purchasing upgraded equipment and access to cutting-edge applications providing new capabilities. The PSWN Program notes that this plan also offers backward compatibility—making it possible to use legacy equipment that will not be able to employ 6.25 kHz channel bandwidths—emphasizing that at present, no such equipment has yet been developed for use in the 700 MHz public safety band. Because the cost of transition to new

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30 See *4th R&O, WT 96–86*, at para. 72.

31 See *4th NPRM, WT 96–86*, at paras. 50–51.

32 See, e.g., *PSWN Program Reply Comments to 5th NPRM, WT 96–86*, at paras. 5–6; *FLEWUG Reply Comments to 5th NPRM, WT 96–86*, at para. 4.

technology is often prohibitive, it is important that the standard that is ultimately agreed upon is compatible with developing technology and resists the premature obsolescence of existing systems.

III. STANDARDS

A. Project 25 Standard

34. The change from the systems deployed today to technology that meets the Commission's goal of 6.25 kHz capability to improve spectrum efficiency will not be achieved overnight. The Project 25 Phase I standard that the Commission has adopted for the 700 MHz interoperability channels will allow for a smooth transition to reach that goal.[33] In its First R&O the Commission stated, "Clearly, if interoperability is to be achieved on these channels, a single standard must be selected to ensure equipment compatibility." The Commission appropriately sought comment regarding whether choosing a single standard "locked in" the technology of today thus precluding emerging technologies.[34] After significant comment by a broad cross–section of the public safety community, the Commission determined that the American National Standards Institute (ANSI) approved Project 25 standard should serve as the digital standard. Equipment manufacturers will share this standard in developing equipment to create true "unit-to-unit" interoperability.

35. The Commission stated in its First R&O, "...digital modulation technology is a very important factor in optimizing efficiency of spectrum use, and as such it will be a key

[33] See *4th R&O, WT 96–86,* at paras. 69–78.
[34] See *1st R&O, WT 96–86,* at para. 111.