PUBLIC SAFETY PSWN PROGRAM WIRELESS NETWORK

Public Safety Wireless Network

Saving Lives and Property Through Improved Interoperability

July 21, 2003

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW
12th St. Lobby, TW–A325
Washington, DC 20554

Re: PSWN Program Comments to the Commission's Notice of Inquiry, *In the Matter of Commission Seeks Public Comment on Interference Immunity Performance Specifications for Radio Receivers [*and*] Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, **ET Docket No. 03-65, MM Docket No. 00-39.**

Dear Ms. Dortch:

On behalf of the Public Safety Wireless Network (PSWN) Program and pursuant to Sections 1.51 and 1.430 of the Commission's Rules, 47 C.F.R. §§ 1.51, 1.430 (2002), enclosed herewith for filing are an original and four (4) copies of the PSWN Program's Comments in the above-referenced proceeding.

Kindly date-stamp and return the additional, marked copy of this cover letter and filing to the person delivering it.

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

Respectfully submitted,

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

Don Pfohl
Communications Manager,
Oregon State Police
Member,
PSWN Executive Committee

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Before the
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Washington, DC 20554

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Commission Seeks Public Comment on Interference Immunity Performance Specifications for Radio Receivers	)	ET Docket No. 03-65
	)	
Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television	)	MM Docket No. 00-39

To: The Commission

PUBLIC SAFETY WIRELESS NETWORK PROGRAM COMMENTS

Filed by: The Public Safety Wireless Network Program

Date: July 21, 2003

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PUBLIC SAFETY WIRELESS NETWORK PROGRAM COMMENTS

1. The Public Safety Wireless Network (PSWN) Program[1] Executive Committee (EC) respectfully offers the following Comments in response to the Notice of Inquiry (NOI) adopted by the Federal Communications Commission (Commission) pursuant to ET Docket No. 03-65.[2] The PSWN Program is encouraged that the Commission has established this docket for the purpose of addressing the recurrent problem of interference at the most logical point of intervention to prevent signal loss and remedy transmission quality. The PSWN Program agrees with the Commission that by providing mandatory guidelines for manufacturers, public safety wireless communications will benefit dramatically.

[1]The PSWN Program is a federally funded initiative operating on behalf of all local, state, federal, and tribal public safety agencies. The Department of Homeland Security and the Department of Justice 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.

[2] Notice of Inquiry, *In the Matter of Interference Immunity Performance Specifications for Radio Receivers* [and] *Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, ET Docket No. 03-65, MM Docket No. 00-39, FCC 03-54, rel. March 24, 2003 (*NOI*).

I. BACKGROUND

2. The PSWN Program has consistently endorsed the adoption of receiver standards by the Commission to promote interoperability and help ensure quality of service. The incompatibility of competing communication technologies has led to a proliferation of independent equipment and architecture that cannot communicate with existing deployed systems manufactured by different vendors.

3. On June 6, 2002, the Commission formed the Spectrum Policy Task Force (Task Force) to "...[identify] and [evaluate] changes in spectrum policy that will increase the public benefits derived from the use of the radio spectrum."[3] The Task Force sought comment[4] on issues pertaining to the Commission's spectrum policies and specifically asked questions regarding interference protection.[5] The Task Force delivered its findings in November 2002 after conducting a review of more than 200 filings.[6] After a thorough examination of the Commission's rules and policies, the Task Force concluded that, "[a]dvances in technology create the potential for systems to use spectrum more intensively and to be much more tolerant of interference than in the past."[7] Advocating a new comprehensive interference measurement technique, "interference temperature," the Task Force also specifically recommended that the Commission, "...consider establishing receiver performance requirements to supplement its transmitter-centric interference

[3] News Release, *Chairman Powell Announces Formation of Spectrum Policy Task Force*, June 6, 2002.
[4] *See* Public Notice, *Spectrum Policy Task Force Seeks Public Comment on Issues Related to Commission's Spectrum Policies*, ET Docket No. 02-135, released June 6, 2002.
[5] *Id.* at p. 3. Questions related to the definition and measurement of interference, the rights of spectrum users pertaining to interference, and the possibility of establishing receiver standards or guidelines to mitigate the effects of interference.
[6] *See* Spectrum Policy Task Force Report, ET Docket No. 02-135 (*Task Force Report*), released November 15, 2002.
[7] *Id.* at p. 3.

management approaches."[8] The Task Force specifically recommended that the Commission, "Issue [a] Notice of Inquiry to characterize current and future receiver environments and to explore issues to consider, such as, minimum performance parameters and protection for legacy receivers."[9] The Commission acted on the Task Force's conclusions on March 24, 2003, releasing an NOI to explore the adoption of receiver standards or guidelines.[10]

II. STATEMENT OF INTEREST

4. The PSWN Program has strongly supported the incorporation of receiver standards into the Commission's spectrum policies to provide increased interference protection for local, state, and tribal public safety communications operations.[11] It is imperative that as spectrum use increases, public safety systems are protected from a corresponding spike in incidents of interference. Adoption of receiver interference immunity standards will increase the reliability of communications for law enforcement, fire and rescue, and emergency personnel through interference mitigation while helping to ensure the safety of the Nation's citizens.

III. DISCUSSION

5. The PSWN Program is encouraged by the initiation of this proceeding and is pleased to provide comments on issues affecting the development and implementation of receiver standards. Critical safety-of-life operations involve public safety users on a daily basis and the

[8] *Id.* at p. 33.
[9] *Id.* at p. 34.
[10] *See* NOI, ET Docket No. 03-65.
[11] *See, e.g.*, Comments of the PSWN Program, Spectrum Policy Task Force Report, ET Docket No. 02-135, July 8, 2002, at para. 16; Reply Comments of the PSWN Program, Spectrum Policy Task Force Report, ET Docket No. 02-135, July 23, 2002, at para. 13; Comments of the PSWN Program, Spectrum Policy Task Force Report, ET Docket No. 02-135, January 1, 2003, at para. 15; and Reply Comments of the PSWN Program, Spectrum Policy Task Force Report, ET Docket No. 02-135, February 10, 2003, at para. 14. *See also* Comments of the PSWN Program, *In the Matter of Improving Public Safety Communications in the 800 MHz Band*, ET Docket No. 02-55, February 25, 2003, at para. 15.

ability to communicate with each other could be the difference between life and death. Vital public safety communications must be protected from interference and therefore should be the Commission's primary concern in developing receiver standards. The PSWN Program offers comments to this information-gathering proceeding related to three phases of the standards development process: 1) pre-development issues, 2) selection of appropriate standards, and 3) implementation and transition issues.

A. Pre-Development Issues

6. The PSWN Program underscores the priority of public safety services in the Commission's receiver standards development process. Communications that affect the safety of the Nation's citizens must have guaranteed reliability. Receiver standards that will contribute to that reliability should be evaluated and applied to critical communications services first and foremost.

7. The implications of safety-of-life communications warrant strict interference protection from services operating in neighboring spectrum bands, as well as from other public safety services operating in the same frequency bands. Voluntary compliance with industry-developed receiver guidelines does not ensure that all users will properly mitigate interference, nor does it guarantee one interoperable standard. Without mandated compliance, users may be unwilling to bear the cost of new standards-compliant receivers or may choose differing proprietary standards, significantly hindering interoperability. The PSWN Program supports Commissioner Abernathy's view on adopting receiver standards that, "***[W]here possible***, the FCC should afford

licensees flexibility in the deployment of technologies."[12] Not all radio services require the same level of interference protection, and the PSWN Program agrees that individual services should be free to adopt standards pertinent to their operations. However, public safety services, and all non-public safety services with safety-of-life implications, demand consistent, ***mandatory*** standards to effectuate interoperable, interference-immune receiver solutions.

8. Developing receiver standards necessitates comprehensive input from all affected entities. The Commission, in conjunction with the National Telecommunications and Information Administration, should work closely with public safety users, agencies, and associations; state and local regulatory bodies; and technology developers, manufacturers, and vendors in an open, information-sharing environment. The PSWN Program advocates the formation of a working group similar to the Public Safety National Coordination Committee to develop suitable receiver standards and to advise the Commission on implementation issues.[13]

B. Selection of Appropriate Receiver Standards

9. The PSWN Program strongly supports the Task Force's recommendation and the Commission's intent to use new measurement metrics, e.g. "interference

[12] Separate Statement of Commissioner Kathleen Q. Abernathy Re: Interference Immunity Performance Specifications for Radio Receivers (ET Docket No. 03-65); Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television (MM Docket No. 00-39), Notice of Inquiry, released March 24, 2003, at p. 1 (emphasis added).

[13] The Commission, pursuant to the Federal Advisory Committee Act, formed the Public Safety National Coordination Committee to "[identify] technical standards for radio receivers operating on the interoperability channels in the 700 MHz public safety band." NOI, ET Docket 03-65, rel. March 24, 2003, at para. 26.

temperature,"[14] in conjunction with a thorough, comprehensive analysis of the interference environment across the radio spectrum. A dynamic measurement technique, consistent across services and frequency bands, will serve as the basis for developing performance requirements and corresponding receiver standards. In that way, an accurate noise floor can be assessed for each band that is tailored to the specific environment and conditions in which users actually operate their systems.

10. Public safety communications differ by technology, frequency band, service type, geographic region, and user, requiring varying receiver standards across services. The PSWN Program encourages the optimization of interference immunity standards for individual safety-of-life services. Sub-categorization of services under the "public safety" umbrella should be considered for organizational purposes only, not as blanket requirements for service types or geographic areas. However, the Commission should consider developing tolerance levels for equipment used by public safety personnel as a baseline for equipment in those bands. In doing so, it should remain mindful of considerations such as frequency re-use in selecting a standard that is robust, without being so sensitive that unwanted transmissions in the same or nearby bands present new challenges to public safety users.

C. Implementation and Transition Issues

11. While immediate deployment of new, standards-compliant receivers for emergency personnel would be ideal, it is also unrealistic. Because of the unique budgetary constraints on

[14] "The idea of an interference temperature as a measure of the 'noise' power in a particular band and location is synonymous with the concept of antenna temperature...." Spectrum Policy Task Force Report, ET Docket 02-135, at p. 27, citing FN 38. "The Commission intends to consider the use of interference temperatures for managing interference in a separate proceeding." NOI ET Docket No. 03-65, at p. 4, citing FN 12.

public safety agencies, most equipment replacement cycles are no less than 10 years, and in many cases, considerably longer.[15] However, the need for mandatory receiver standards has been recognized, and the benefits of reliable, interoperable, communications that are immune from interference are irrefutable. Therefore, it is imperative that the adoption of standards, and the development and deployment of spectrum-efficient equipment, occur as rapidly as possible. The Commission has acknowledged the budgetary limitations on public safety entities in past migration planning efforts, most recently in extending the transition deadlines for public safety services operating land mobile radio systems below 470 megahertz (MHz).[16] Recognizing the need for an extended financial planning period, the Commission established a 15-year "phasing out" period for public safety systems to transition to more spectrally efficient equipment.

12. The PSWN Program supports a similar migration plan for the transition to standards-compliant receivers for public safety services. This period consists of two deadline dates: 1) public safety services are prohibited from purchasing non-standards-compliant receivers 5 years after the effective date of the Commission's final Rules, and 2) all public safety services must use standards-compliant receivers 15 years after the effective date of the Commission's final Rules. By establishing a date certain for compliance, the Commission would provide sufficient time for technology manufacturers to develop suitable equipment and for public safety agencies to develop funding plans for the purchase of new receivers or to finance upgrades to existing equipment.

[15] See *PSWN Program Analysis of Fire and EMS Communications Interoperability*, April 1999, at p. ii.
[16] *See* Second Report and Order, *In the Matter of Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended and Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies*, WT Docket No. 99-87, rel. February 25, 2003, at paras. 17, 19.

IV. CONCLUSION

13. The PSWN Program looks forward to the contributions of other parties to support the Commission in developing policies that mitigate interference and promote spectrum efficiency. Developing a thorough, fully representative understanding of the current radio frequency environment is crucial to these goals. The PSWN Program reiterates that the public safety community's need for interference protection must remain a priority and is confident that the Commission will establish receiver interference immunity standards to ensure the safety of the Nation's citizens through effective and reliable public safety communications.

Respectfully submitted,

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

Don Pfohl
Communications Manager,
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Member,
PSWN Executive Committee

Certificate of Service

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I, Richard N. Allen, Senior Associate, Booz Allen Hamilton, 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 Comments to the Commission's Notice of Inquiry, *In the Matter of Commission Seeks Public Comment on Interference Immunity Performance Specifications for Radio Receivers* [and] *In the Matter of Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television,* ET Docket No. 03-65, MM Docket No. 00-39, the original of which is filed herewith and upon the parties identified on the attached service list.

DATED at Fair Oaks, Virginia this 21st day of July 2003.

Richard N. Allen

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