NPSTC

NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

National Public Safety Telecommunications Council
First Quarter Report 2011

This Quarterly Report documents the activities of the National Public Safety Telecommunications Council (NPSTC) for the First Quarter 2011. NPSTC is a federation of organizations whose mission is to improve public safety communications and interoperability through collaborative leadership.

Governing Board

During the First Quarter 2011, NPSTC held a quarterly Committee meeting on February 28 and March 1 in San Antonio, Texas. NPSTC's committees, Interoperability, Spectrum Management, and Technology, identify needs and requirements regarding public safety communications issues. NPSTC's recurring meetings and the teleconferences of the Committee's Working Groups provide an opportunity to gather the individual viewpoints and opinions of the public safety community and conversely to update the public safety community on current telecommunications projects and issues.

The meeting included reports and critical discussions of important, new issues in public safety telecommunications and allowed ample opportunity to engage the stakeholder community. The meeting was publicized to local public safety agencies, resulting in the attendance of several local public safety professionals.

Special guests included Amanda Hilliard, Stakeholder Engagement and Outreach Branch Chief, Department of Homeland Security's (DHS) Office of Emergency Communications (OEC), Karen Ray, Branch Chief, Office for Interoperability and Compatibility (OIC), and Kathleen Higgins, First Responders Group, OIC. Attending by teleconference were Public Safety and Homeland Security Bureau (PSHSB) representatives from the Federal Communications Commission (FCC), Roberto Mussenden, Policy Division; Behzad Ghaffari, Systems Engineering Chief; and Pat Amodio, Chief, Radio Frequency, Emergency Response Interoperability Center (ERIC).

NPSTC welcomed a new alternate representing the Canadian Interoperability Technology Interest Group (CITIG), Superintendant Bill Moore, Halifax Region Police, replacing Rick Finn. Due to the press of his work at American Association of State Highway and Transportation Officials (AASHTO) and his service on a number of boards, Bill Brownlow announced that he will resign as Chair of the Outreach Committee following this meeting but continue to represent AASHTO on the Governing Board.

Filings on Regulatory Issues

On behalf of its member organizations, NPSTC made the following filings to the FCC in the First Quarter 2011.

NPSTC Sent a Letter to the FCC Asking the Commission to Require Future Interference Testing Before Approving LightSquared's Terrestrial Wireless Service Application. January 25, 2011. NPSTC wrote asking the Commission to ensure public safety use of GPS is protected from potential interference that could result by granting LightSquared's application to operate a terrestrial wireless service in a band allocated to mobile space-based services by deploying a network of densely populated terrestrial transmitters whose transmissions would blanket entire urban areas. This could radically change and degrade the spectrum environment in which adjacent GPS signals are received, as strong signals from the LightSquared facilities could block GPS reception by public safety communications facilities and devices.

NPSTC Submitted a Position Paper on Proposed Changes to the Intrinsically Safe Standard. January 25, 2011. NPSTC's position expressed strong concerns about the potential implementation of FM Approvals Standard 3610-2010 due to the negative technical and financial impact on public safety users of LMR that require the intrinsically safe certification.

NPSTC Submitted Comments to Industry Canada Gazette, Notice No. SMSE-018-10 - Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Radio Spectrum. February 25, 2011. NPSTC submitted Comments in response to Gazette Notice SMSE-018-10 addressing the Policy and Framework for the 700 MHz Band, including spectrum use for the public safety broadband applications, commending Industry Canada's examination of the 700 MHz band and how to best provide spectrum to enable public safety agencies in Canada to implement and operate broadband networks built to meet their mission-critical requirements. NPSTC urged Industry Canada to harmonize to the fullest extent possible the spectrum, policies, and technical rules of Canada and the U.S. relating to the public safety 700 MHz broadband structure.

NPSTC and LMCC Submitted Comments in Response to the Commission's ET Docket No. 10-237 - Promoting More Efficient Use of Spectrum through Dynamic Spectrum Use Technologies February 28, 2011. NPSTC submitted Comments in response to the Commission's Notice of Inquiry (NOI) released November 30, 2010, seeking comment on the ways in which dynamic spectrum access technology can promote more intensive and efficient use of the radio spectrum. NPSTC supports the overall inquiry regarding dynamic spectrum access technologies and believes there are a number of open questions that must be addressed before such technologies are deployed in public safety spectrum. NPSTC believes that any testing of DSA technologies in the public safety spectrum should be conducted by and for the public safety community. The viability of DSA equipment for public safety hinges largely on its implementation without interference and on how well it can meet public safety operational requirements.

NPSTC Submitted Comments in Response to the FCC's Rapidly Deployable Aerial Communications Architecture Public Notice. February 28, 2011. NPSTC submitted Comments in response to the

Commission's Public Notice (PN), PS Docket No. 11-15, Rapidly Deployable Aerial Communications Architecture Capable of Providing Immediate Communications to Disaster Areas. The Commission seeks comment on current and future technologies, specifically aerial telecommunications architecture such as unmanned aerial vehicles or balloon-mounted or unmounted systems that can be rapidly deployed to an area within the first few hours after major natural disasters or terrorist attacks. On February 8, 2008, NPSTC filed a Petition for Rulemaking to Amend the Bandplan for the 764-776 MHz and 794-806 MHz Public Safety Bands, specifically addressing changes to existing narrowband interoperability channels. In Section 4 of that Petition, NPSTC presented 700 MHz Reserved Channels for Deployable Trunked Systems. This Petition has not yet been formally addressed by the Commission.

Notification of Ex Parte Communication - PS Docket No. 06-229. March 4, 2011. NPSTC provided notice of a permitted ex parte communication. John Powell, Chair, Interoperability Committee, NPSTC, met with David Furth, Jennifer Manner, Erika Olsen, Pat Amodio, Behzad Ghaffari, Jason Kim, Yoon Chang, Roberto Mussenden, Brian Hurley, and Henning Schulzrinne of the FCC's Public Safety and Homeland Security Bureau; Ziad Sleem and Tom Peters of the FCC's Wireless Telecommunications Bureau; and Walter Johnston, Michael Ha, and Robert Weller of the FCC's Office of Engineering and Technology.

NPSTC Submitted a Letter Regarding the FCC's Signal Boosters Declaratory Ruling, NPRM, and Order (Docket WT 10-4). March 29, 2011. NPSTC believes that such unauthorized use, even on an interim basis could significantly increase the potential for signal boosters to cause interference to public safety networks. Even where there is no interference, installation of unauthorized boosters by the public that are not recognized by commercial networks might undermine the use of E911 by preventing the accurate determination of location information.

NPSTC Submitted Reply Comments Regarding Continued Use of the Former 800 MHz NPSPAC Mutual Aid Channels in the Canada/United States Border Areas (Docket WT 02-55). March 29, 2011. NPSTC submitted Reply Comments in response to the PSHSB Public Notice in the above captioned proceeding. NPSTC agrees with Comments filed that support the need for cross-border interoperability on the former 800 MHz NPSPAC Mutual Aid channels, and that these needs are sufficiently complex to warrant consideration in a rulemaking proceeding by the Commission.

NPSTC Committee Action Items

At the February 2011 meeting, the Governing Board made the following decisions.

- The Governing Board voted to approve NPSTC's representation to the U.S. Global Positioning System (GPS) Industry Council to present public safety input on the potential for interference related to LightSquared plans to build a national LTE network for satellite and terrestrial service. Gary Pasicznyk, Manager Electronic Engineering Bureau, City and County of Denver, has agreed to represent NPSTC on the GPS council. Dominic Arcuri, RCC, has agreed to serve as a backup representative to Mr. Pasicznyk. The spectrum is in the 1.5/1.6 GHz band near GPS frequencies. Approximately 40,000 base sites are planned, with trials expected in Baltimore, MD; Denver, CO; Las Vegas, NV; and Phoenix, AZ, in early 2011. The National

Telecommunications and Information Administration (NTIA) raised concerns about the potential for interference with GPS to the FCC on January 12, 2011. NPSTC filed a letter on January 25 on the need to protect public safety use of GPS from interference.

- The Governing Board voted to go on record in opposition to the withdrawal of any amateur radio frequencies as a swap for public safety broadband related to a proposed element in the King-Thompson Bill, H.R. 607. While strongly supporting the allocation of the D Block to public safety as an element of this bill, the legislation in its present form proposes to auction spectrum in the 420-440 and 450-470 MHz within 10 years as a "swap" for old public safety spectrum for new. Public safety does not operate in this spectrum but amateur radio and other users do.

- The Governing Board voted to go on record in opposition to the withdrawal of any business spectrum that would affect the alarm industry as a swap for public safety broadband related to a proposed element in the King-Thompson Bill, H.R. 607 as discussed above.

- The Governing Board voted to go on record in opposition to the withdrawal of any public safety spectrum as a swap for public safety broadband related to a proposed element in the King-Thompson Bill, H.R. 607 as discussed above.

- The Governing Board voted to approve Keith Victor, Hartford, CT, Fire (ret), to serve as Chair of the ESF-2 Working Group.

- The Governing Board voted to remove formal monitoring of Project MESA from the Interoperability Committee. Project MESA formally closed in December 2010 by agreement between European Telecommunications Standards Institute (ETSI) and the Telecommunications Industry Association (TIA).

- The Governing Board moved to approve Chief Paul Szoc as NPSTC's representative to the ISA Working Group.

- The Governing Board voted to approve the National Council of Statewide Interoperability Coordinators (NCSWIC) as an Associate Member to the Governing Board.

- The Governing Board voted to approve NPSTC's position of support for a nationwide broadband public safety network, developed as a response to the FCC's Third Report and Order (3rd R&O) and the Fourth Further Notice of Proposed Rulemaking (4th FNPRM). The position describes and contrasts the original vision of a nationwide system to a proposed network of networks. The goal should be a nationwide network. The Governing Board further approved an ex parte presentation of the concept to the FCC.

Meeting Presentations

Presentations at the February 2011 Committee meeting included updates from OEC, OIC, and the FCC's PSHSB.

Office for Interoperability and Compatibility (OIC), Karen Ray, Branch Chief. Ms. Ray reported on OIC projects:

- Four multi-band radio pilots have been completed in Blaine, WA, and with the Vancouver Transit Police, Murray State University, and Michigan Medical Services with a draft report for each pilot under review.
- The Project 25 Compliance Assessment Program (P25 CAP) has begun to test equipment from three new manufacturers, Power Trunk Inc., European Aeronautic Defense and Space Company Inc., and Simoco. During the TIA P25 quarterly meeting last month, OIC and the Public Safety Communications Research (PSCR) program described the process through which CAP tests and common air interface tests would be developed outside of the standards development process, with the support of industry and public safety. All P25 participants, both industry and public safety, supported this move.
- During January and February, the Voice over Internet Protocol (VoIP) team conducted a multi-jurisdictional test of the bridging system interfaces (BSI). The demonstration will use disparate systems to test the successes and barriers in using the BSI profile specifications and examine whether the profile improves interoperable communications.
- The Video Quality in Public Safety (VQiPs) Working Group hosted a fourth workshop in Boulder, CO, with 50 participants from academia, public safety, industry, and standards groups. DHS is reviewing the Task-Based Tactical and Surveillance Video Quality Test Report, which describes laboratory studies that investigated the level of quality required for tactical, live, and recorded surveillance public safety video application.
- In work on Emergency Data Exchange Language (EXDL), OASIS [Organization for the Advancement of Structured Information Standards] is working on EDXL-TEP [Tracking of Emergency Patients] and is considering a recommendation from a Practitioner Steering Committee to expand TEP to Tracking of Emergency Clients (TEC), which would include evacuees, shelters, etc.
- In January the Alerts and Warnings in Social Media team held meetings with practitioners to gain additional perspectives for a proposed guide. Five core elements have been identified for an agency to consider when using social media for alerts: usage, community awareness, resources, partnerships, and governance.

Office of Emergency Communications (OEC), Department Homeland Security (DHS), Amanda Hilliard, Stakeholder Engagement and Outreach Branch Chief. Ms. Hilliard works with the state and local stakeholders including the National Council of Statewide Interoperability Committees (NCSWICs) that OEC supports. She reviewed the progress in meeting the goals of the National Emergency Communications Plan (NECP) with all 60 of the Urban Areas (UAs) meeting Goal 1. A report of summary findings will be made available to the community. The goals measurement provides a comprehensive view of interoperability in the U.S. and allows OEC to identify best practices and success stories, target emergency communications needs at the local levels, helps OEC target TA, grants, and other support and helps to prepare the public safety community for next generation technologies.

In other areas of assistance to the community, OEC has developed a map-based Internet tool that visually depicts the status of narrowbanding via a map and spreadsheet, available at www.publicsafetytools.info. All of the OEC Regional Coordinators are now in place for each of the 10 Federal Emergency Management Agency (FEMA) regions. OEC has developed a number of new guides including a regional governance guide and, currently in final review, narrowbanding, performance management, and system life cycle guides. In development, OEC is working on a new regional interoperable communications plan template, and brochures on the Communications Unit Leader (COML) program and the dual path of Land Mobile Radio (LMR) and broadband.

Public Safety and Homeland Security Bureau (PSHSB), FCC, Roberto Mussenden, Policy Division. Mr. Mussenden discussed a FCC presentation on VHF/UHF narrowbanding information for public safety licensees. The presentation reviews narrowbanding basics such as who is required to narrowband and what exactly is required and discusses the benefits of narrowbanding, which is being done to ensure more efficient use of the spectrum and relieve congestion. Narrowbanding must be done by January 1, 2013. Meeting the deadline is important to avoid interference or interoperability problems.

ERIC Update, Behzad Ghaffari, Systems Engineering Chief, and Pat Amodio, Radio Frequency Engineering Chief. Mr. Ghaffari and Mr. Amodio provided an overview of the important steps achieved to date in meeting the FCC's nationwide interoperability timeline. The timeline called for the creation of an Emergency Response Interoperability Center (ERIC) which occurred in April 2010. In May 2010, the Bureau issued a waiver order approving 21 petitions to build broadband networks. By December 2010, the Bureau issued an interoperability framework order for the waiver recipients, and, in January 2011, the Bureau issued the Interoperability Third Report and Order and Fourth Further Notice of Proposed Rulemaking (3rd R&O and 4th FNPRM). The Fourth FNPRM includes an architectural vision for a nationwide network and interoperability to address the following: Components of the nationwide network, regional network characteristics, supporting voice and data communications, roaming authentication and interworking functions, a nationwide backbone network, nationwide services and capabilities, and evolution.

Public Safety Spectrum Trust (PSST), Harlin McEwen. Chief McEwen reviewed elements of the current proposed legislation for a national public safety broadband network. The Rockefeller Bill, S. 28, is generally positive and reallocates the D Block to public safety and provides funding for the national public safety broadband network. The King-Thompson Bill, H.R. 607, is a bi-partisan bill that also allocates the D Block to public safety, specifically to the Public Safety Broadband Licensee (PSBL), currently the PSST. It provides up to $5.5 billion for construction and up to $ 5.5 billion for operation and maintenance, both from auction revenues of spectrum other than the D Block. It allows the U.S. Treasury to borrow the first $2 billion in seed funding for construction prior to auctions.

Canadian Interoperability Technology Interest Group (CITIG), Lance Valcour. Mr. Valcour said the Federal/Provincial/Territorial Ministers responsible for emergency management approved a national interoperability strategy in January 2011. The *Strategy for Communications Interoperability and Action Plan for Canada* identifies key priorities to enhance governance, standard operating procedures, planning, technology, training, exercises, and usage aimed at

improving the voice and data communications for emergency responders, both day to day and during times of emergencies affecting more than one jurisdiction.

There has been an explosion of activity in 700 MHz. At a CITIG meeting, the Tri-Services Special Purpose Committee on 700 MHz Broadband for Mission Critical Public Safety Data was created on December 8, 2010. Following the release of Industry Canada's 700 MHz consultation, letters of support have come from an amazingly wide range of commenters, including Public Safety Canada, Canada's DHS equivalent.

Spectrum Propagation Study, National Institute of Standards and Technology (NIST), William Young. Mr. Young presented the results of a NIST radio propagation study to study the problem of unknown or inadequate radio performance in emergency situations. The study was prompted in part by problems noted during 9/11, which demonstrated some significant shortcomings in the knowledge of radio frequency (RF) propagation in emergency response environments. This resulted in poor interoperability between radio systems, the inability to communicate with responders deep within structures, and ineffective use of radio-transmitters buried in collapsed material (emergency beacons). Additionally there is a problem broadcasting from large buildings generally.

Outreach and Public Safety Participation Opportunities

NPSTC's Executive Director and various NPSTC Committee volunteers participated in events and tasks related to public safety telecommunications, which provided opportunities to engage the public safety community, including the following meetings, some of which occur monthly.

- Information Sharing and Coordination Working Group (ICWG) teleconference and review of a number of draft documents. The ICWG is responsible for monitoring and improving the critical infrastructure information sharing environment among federal, state, local, tribal, and territorial government (SLTT), and private sector partners. The ICWG's mission includes assisting to develop collaborative partnerships and mechanisms necessary to properly disseminate critical infrastructure information while generating feedback on Council and Department initiatives. The ICWG is the primary SLTT liaison to the Department's Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) office and works to provide SLTT feedback and input on programs such as Infrastructure Risk Analysis Partnership Program (IRAPP) and Virtual USA.
- Cross-Sector Cyber Security Working Group (CSCSWG): Follow on discussion of DHS' Cybersecurity Strategy for the Homeland Security Enterprise.
- DHS SAFECOM Executive Committee Monthly Conference Call.
- FCC Meetings: Conference call with FCC ERIC to discuss 4.9 GHz; Narrowbanding Panel participation; and attendance at the FCC Interoperability Workshop in Washington D.C.
- DHS Spectrum Dual Path Monthly Meeting.
- DHS SAFECOM Narrowbanding Working Group Meetings.
- OEC Wireless Broadband Technology Working Group.

- Meetings between public safety, United Laboratories (UL), CSA International (CSA), and FM Approvals regarding the Intrinsically Safe Radio issue. Coordinated intrinsically safe representatives on panels and outreach, along with conducting numerous conference calls to organize a NPSTC meeting with the Occupational Safety and Health Administration (OSHA) representatives to be held in April.
- TIA meeting. NPSTC provided input to TIA regarding their 2011 goals and objectives, along with communicating the importance of TIA's involvement regarding standards for Intrinsically Safe Radios.
- State Department Advisory Committee on International Communications and Information Policy, January 13.
- FCC Open Meeting in which policies were being developed for public safety's use of 700 MHz broadband, January 25.
- FCC Panel on the 2013 Narrowbanding Requirements, January 26.
- Multi-Band Radio (MBR) Webinar, February 16. The lack of interoperable communications between public safety agencies on disparate radio systems has plagued first responders for years. This webinar, hosted by *Urgent Communications* Magazine with sponsorship from Thales Communications and the participation of NPSTC's Interoperability Committee Chair, discussed how MBR can be used.
- 4.9 GHz Band: Spectrum Dedicated to Public Safety for Broadband Use, February 25
- Industry Standard Association Meeting for Intrinsically Safe Radio (ISA12.02/SC31G USTAG).
- Discussions with the US State Department regarding Southern Border activities; hosted a conference call between OEC, Texas Sheriff's Association, and the NPSTC Border Working Group to coordinate future activities.
- Coordinated three representatives for the GPS/Lightsquared Working Group and hosted related conference calls.
- FCC Multi-Party Meeting, March 3. The NPSTC Interoperability Chair and Board representative conducted an ex parte meeting with the FCC PSHSB Deputy Chief and his staff. NPSTC presented its high-level conceptual overview of a single nationwide broadband network vs. a network-of-networks.
- FCC Interoperability Forum, March 4. The PSHSB's ERIC hosted an Interoperability Forum that provided the opportunity for input on the technical framework for the nationwide public safety mobile broadband network to ensure nationwide interoperability. This network must be technically compatible and fully interoperable from the first day of network deployment in order to serve as the nationwide broadband network envisioned for America's first responders. The FCC PSHSB Deputy Chief invited NPSTC to this forum. The NPSTC Interoperability Committee Chair presented a national interoperability overview on broadband security and participated in subsequent discussions.
- International Wireless Conference & Exposition (IWCE), March 7-11. NPSTC volunteers worked at an exhibit booth and engaged the public safety community at the standing room only

NPSTC panel discussion. NPSTC provided new Resource mini-CDs, a one-page summary of the *NPSTC Quarterly Newsletter* (Summer 2010), available online, a *What Is NPSTC*? handout, a *Tech Brief on Narrowbanding*, and the *9/11 Working Group Initiative* handout. IWCE is one of the biggest public safety telecommunications conferences, providing an expanded opportunity to engage the public safety community.

- FCC ERIC Public Safety Advisory Committee Meeting, March 15. NPSTC's Interoperability Committee Chair participated in the FCC Emergency Response Interoperability Center (ERIC), Public Safety Advisory Committee (PSAC) meeting. Following the Committee meeting, the Interoperability Committee Chair participated in the Applications and User Requirements Working Group's first meeting and accepted the task of providing the working group with the NPSTC Statement of Requirements and PSWAC Follow-up: Assessment of Future Spectrum & Technology (AFST) Working Group and Broadband Focus Group's list of potential applications.

Committee Reports

Outreach Committee

The Outreach Committee engages and educates the public safety telecommunications community through personal contact at trade shows and conferences; provides opportunities for participants to learn from others facing the same challenges; and educates practitioners on policy, federal initiatives, technology, and the latest research through open forums and publications.

Volunteer Participation

The Chair, Participant Development Working Group, has been reaching out to NPSTC's volunteers to ascertain their interest and connect them to appropriate Committees and Working Groups. NPSTC has 150 volunteers on 20 Working Groups. Other NPSTC volunteer participation includes:

- State Department, Ralph Haller, Chair, NPSTC,
- FCC Emergency Response Interoperability Center (ERIC) Public Safety Advisory Committee (PSAC), Tom Sorley, Technology Committee Chair, City of Houston
- Louisiana State University Communication Leadership Registry Committee, Lloyd Mitchell, Chair, Executive Task Force Chair, representing FCCA
- FCC Advisory Committee, Communications Security, Reliability, and Interoperability Council (CSRIC), Bill Brownlow, AASHTO
- U.S. Global Positioning System (GPS) Industry Council Appointment, Gary Pasicznyk, Manager Electronic Engineering Bureau, City & County of Denver; Dominic Arcuri / Alternate Rob Lopez, RCC
- ISA12.02/SC31G USTAG Representative, Chief Paul Szoc, IMSA
- Wireless Forum (Formerly, SDR), John Powell, Interoperability Committee Chair
- SAFECOM, Chief Doug Aiken, Vice Chair, NPSTC, and Marilyn Ward, Executive Director
- FCC Emergency Response Interoperability Center Public Safety Advisory Committee (ERIC PSAC), Chief Doug Aiken, IMSA; Bill Brownlow, AASHTO; Brian Fontes, NENA; Mark Grubb, NCSWIC; Chief Harlin McEwen, PSST; Kevin McGinnis, NASEMSO; Deputy Chief Eddie Reyes, IACP, and Chief Charles Werner, IAFC.

Editorial Review Working Group
During the First Quarter, the Working Group reviewed and approved meeting minutes, the quarterly newsletter, regulatory review, and Annual Report 2010.

NPSTC Quarterly, Spring Edition 2011. Articles include*:*

- Welcome from the Chair, *by Ralph Haller*
- Intrinsically Safe Discussions Continue, Recent discussions indicate progress on several fronts in resolving the problems caused by changes to the intrinsically safe standard for LMR.
- NPSTC Engages to Assess Potential GPS Interference, by *Stu Overby, Chair, Spectrum Management Committee*, LightSquared plans to build an LTE terrestrial network with approximately 40,000 sites. The FCC, NTIA, the community using GPS, and LightSquared all agree that operations could potentially interfere with currently deployed GPS receivers under certain circumstances.
- Narrowband Interoperability: It's More Than Just the Project 25 Standard *By Larry Nyberg, Telecommunications Industry Association*.
- Narrowbanding 101 by *Robert Symons, Wyoming Statewide Interoperability Coordinator*, and *Alan Komenski, Washington Statewide Interoperability Coordinator,* What you need to know about the Federal Communications Commission (FCC) mandate regarding radio communication system narrowband compliance.
- Are You Going to be Ready? Narrowbanding Questionnaire Finds 75 Percent Will Have to Coordinate with Other Jurisdictions, *by David Warner, Chair, Narrowbanding Below 512 MHz Working Group*.
- Narrowbanding Pointers from the FCC, fr*om a presentation by Roberto Mussenden, FCC Policy Division*
- Exciting New Projects for the Broadband Working Group *by Andy Thiessen, Chair Broadband Working Group*
- Canada Border Study *by Jack Pagotto* A study has identified radio coverage gap areas exist along the Canada-United States (U.S.) border. To mitigate the operational impact of the gaps, current and emerging technology options were proposed as a means for supporting interoperability of communications that would be required to respond to multi-agency (national or cross-border) emergency management in these border regions.
- Regulatory Update by *Bette Rinehart, Chair, Editorial Review Working Group*
- Welcome to NPSTC's New Associate Member, NCSWICs
- IWCE Update: NPSTC Panel at IWCE, BYOC [Bring Your Own Chair] and Thank You IWCE Volunteers
- 700 MHz State License and upcoming 'Substantial Service' benchmark requirements of the Federal Communications Commission, *by David Warner, Spectrum Management, Virginia Information Technologies Agency (VITA)*
- FCC Reconstitutes CSRIC and Seeks Nominations for Committee*, by Bill Brownlow, American Association of State Highway and Transportation Officials (AASHTO)*
- Since We Last Met: NPSTC Filings, NPSTC Volunteers; What's Happening at DHS, Don't Forget To Participate in National Poll: How Have your Communications Changed Since 9/11

Regulatory Updates. Detailed articles on the latest news from the FCC are issued bi-monthly, in every quarterly newsletter, and as needed for breaking news. The January/February publication of the Regulatory Update was distributed on February 10, 2011. The update included:

- FCC Adopts LTE as Common Air Interface for Public Safety Broadband Network; Releases Proposals for Additional Technical Requirements
- FCC Narrowbanding Workshop
- FCC Seeks Comment on Rapidly Deployable Aerial Telecommunications Architecture Capable of Providing Immediate Communications to Disaster Areas
- LoJack Corporation Seeks Waiver Stolen Vehicle Operation System Operation Requirements
- Region 25 (Montana) Streamlined NPSPAC Plan Amendment Approved
- One 700 MHz Regional Plan Approved

Outreach Listserv. Almost daily emails on federal, regulatory, and other important public safety communications news are sent to the NPSTC Participant and Outreach listservs, as well as other subject matter listservs depending on the topic.

Press releases. NPSTC issued the following press releases in the First Quarter, 2011.

- *9/11 Working Group Initiative: How Have Communications Changed in Your Agency Since 9/11? January 3, 2011*
- *NPSTC Seeks Your Comments on Public Safety Mission-Critical Voice Requirements for Broadband. January 7, 2011*
- *How Do You Use the 4.9 GHz Band? Your Answers Will Help Determine Future Spectrum Needs for Public Safety. January 10, 2011*
- *It All Begins on March 7: IWCE Runs March 7-11. You Are Invited to Discuss Current Telecommunications Issues with NPSTC. January 18, 2011.*
- *Less than 2 Years Away: What is the Status of Narrowbanding Today? Help us help you by filling out a brief narrowbanding questionnaire. January 10, 2011*
- *NPSTC Is Coming to San Antonio! Book Now to Attend NPSTC's Committee Meetings San Antonio, TX. January 19, 2011*
- *NPSTC Commends FCC Progress on Rules for Public Safety Broadband Network. January 24, 2011.*
- *NPSTC Issues Position Paper on Proposed Changes to Intrinsically Safe Standard. January 25, 2011*
- *Jeff Johnson and Eddie Reyes to Lead ERIC Public Safety Advisory Committee. January 28, 2011*
- *4.9 GHz Questionnaire Will Close on February 21. February 3, 2011*
- *Please Take A Few Minutes to Tell Us How You Use the 4.9 GHz Band: Your Answers Will Help Determine Future Spectrum Needs for Public Safety. February 3, 2011*
- *Public Safety Communications Professionals: We Need Your Help. February 10, 2011*
- *Seeking ESF-2 Emergency Management Participants and Chair for Specialized Communications Apps Working Group. February 10, 2011*
- *NPSTC Presents Strong Case for a Nationwide Broadband Architecture for Public Safety. March 10, 2011*

Article Repository. NPSTC maintains an article repository that includes a searchable database by topic on NPSTC newsletter articles and articles in other publications that refer to NPSTC or are written by NPSTC Participants.

Website Review Working Group
The Working Group regularly reviews the website for ease of use and correct information. The website is a practical, outreach tool which offers pertinent information to the public safety telecommunications community. It reaches beyond program initiatives by having links to public safety organizations, government agencies, OIC/OEC, along with links to assist the community with tools to accomplish their telecommunication plans and networks. Statistical information is collected and reviewed as a record of public use and trends.

NIIX (National Interoperability Information Exchange) provides a centralized, secure warehouse to house communications to be shared with other members within a specific community. Registered NIIX members can access peer-created documents and share information with each other. Members can also use NIIX tools to collaborate in the creation and development of their documents. Today NIIX hosts 114 communities.

Spectrum Management Committee
The Committee writes many of NPSTC's filings to the FCC and has monthly conference calls, enabling the group to research and vet positions before those positions are brought to the Governing Board for a vote. The Committee submitted a filing on February 28, 2011, in response to the Commission's Notice of Inquiry (NOI) released November 30, 2010, seeking comment on the ways in which dynamic spectrum access technology can promote more intensive and efficient use of the radio spectrum. NPSTC also filed with Industry Canada in support of the 700 MHz filing. NPSTC volunteers, Dave Buchanan, Joe Ross, and Pam Montanari participated in a FCC-sponsored 4.9 GHz forum on Friday, February 25, 2011, emphasizing the lack of coordination in that band.

700 MHz Working Group
At the February NPSTC meeting there was much discussion regarding the comments NPSTC was preparing for the 3rd R&O and the 4th FNPRM on 700 MHz. The issue of a national public safety broadband architecture versus regional or state networks has been raised by the FCC. The discussion has raised some troubling issues regarding the management of many systems versus one system, the issue of PLMN IDs and roaming, which would occur automatically with one network, costs, and uniform updating and governance of the multiple networks. The FNPRM proposed extensive requirements be placed in the rules. Key areas include architecture, technology platform and system interfaces, system identifiers, roaming configurations, authentication and interworking functions; region/tribal system network interconnectivity; prioritization/quality of service; mobility and handover; OOBE, applications; coverage and reliability requirements; data rates; security and encryption.

Section 337 Eligibility Issues was another issue discussed regarding the Further Notice. This is a critical issue; the Commission has tried to narrow 337, the definition of public safety, but public

safety response to an incident is not just police, fire, and EMS. Restoration after an event cannot occur without clear roads or without power.

Narrowbanding Below 512 MHz Working Group

The mission of this Working Group is to assess the status of narrowbanding below 512 MHz on a nationwide basis and provide a central repository for information to assist agencies in meeting the 2013 narrowbanding deadline. The Working Group has posted a resource map on NPSTC's website with clickable links to points of contact in states and regions to contact for assistance. OEC's narrowband license tool is very valuable. NPSTC is working with the SWICs, OEC, various local resources, and the FCC to publicize and educate on the importance of narrowbanding.

In support of their mission, the Working Group issued a questionnaire on December 15 and closed on January 29, with 360 responses out of 660 opens.

- From this group, 38 percent have narrowbanded.
- A little more than 20 percent intend to move to the 700 or 800 MHz band and will not be narrowbanding.
- Almost 70 percent have developed a plan for narrowbanding and almost 60 percent know how much it will cost.
- Over 50 percent do not know how they will fund narrowbanding.
- Almost 80 percent say they do not plan to file a waiver request with the FCC.
- Almost all respondents, 86.7 percent, said they will have to buy new equipment to comply with narrowbanding.
- Three-quarters said narrowbanding will require coordination with other entities with whom they interoperate.

Update on Potential GPS Interference Issue

The Committee keeps abreast of potential issues that can affect public safety spectrum, and, in February, reported on a new issue; subsequently a new Working Group was created to study the issue. LightSquared plans to build a national LTE network for satellite and terrestrial service. The spectrum is in the 1.5/1.6 GHz band near global positioning system (GPS) frequencies. Approximately 40,000 base sites are planned, with trials expected in Baltimore, MD; Denver, CO; Las Vegas, NV; and Phoenix, AZ, in early 2011. NTIA raised concerns about the potential for interference with GPS to the FCC on January 12, 2011. NPSTC filed a letter on January 25 on the need to protect public safety use of GPS from interference.

On January 26, the FCC granted LightSquared a waiver of certain Ancillary Terrestrial Component (ATC) rules. It noted that LightSquared can offer commercial service "only upon completion of the process for addressing interference concerns relating to GPS..." The order requires LightSquared to organize and participate in a GPS interference technical working group.

In preliminary lab measurements the following should be watched: Simulcast sites that are in close proximity to LightSquared sites could lose synchronization and would generate an alarm. Ultimately the site would be taken out of service. It appears this proximity is a kilometer or less. Point-to-point and point-to-multipoint systems use the GPS to synchronize polling. Loss of

synchronization could cause data collisions, slowing or causing loss of data. Other issues include loss of time synchronization and devices not reporting proper locations.

In resolving these issues, proximity is the concern and is being defined. In general, base station sites within a kilometer or less of the LightSquared base station site could be impacted. Most sites would be able to be resolved with additional filtering at a cost. For devices such as the GPS receivers that are part of another device such as portables, mobiles, cell phones, or GPS receivers feeding other mobile devices, much more testing is needed and solutions may be much more difficult to provide. Field testing is needed to supplement preliminary lab testing.

Technology Committee

Monitoring Topics

P25 CAP: Progress has been made in gathering more user input and the proper location for the actual CAP testing.

Broadband Working Group

The Working Group completed the mission-critical voice requirements document and submitted it to the public safety community for a comment period, which closed on February 6, 2011. A conference call was held on February 24 to begin the comment resolution process. The major comment areas suggested that the group should strengthen the direct mode section to indicate that this feature is the key feature in defining mission critical voice. Comments from APCO suggested that the Working Group should submit the requirements definition for standardization. The comment resolution period is expected to last 4 to 8 weeks before the final document is ready for publication and to potentially begin the standardization process.

The final document will be sent back to all commenters to adequately process the mission critical voice requirements definition. When there is consensus that the definition is complete, it will be sent to the Governing Board for review and a vote.

The second task of the Broadband Working Group is to update the Statement of Requirements (SoR). They have received good suggestions for prioritization of the work effort and what topic areas should be covered, but currently there are not enough people participating in the projected effort. The current plans are to solicit comments and publish each section individually until the entire document is finished.

A potential third task for the Working Group is the development of a P25 to LTE interface. OIC successfully piloted an LMR to broadband push-to-talk capability several years ago with the National Capital Police. The public safety community already has millions of dollars invested in LMR. It makes sense to continue to develop interfaces. The VoIP Working Group, created and run by OIC, is looking at their next work effort, which could begin to define a standards-based interface between P25 and LTE. Requirements need to be developed for the VoIP Working Group to use in creating a specification. The specification would be used as the basis for a standard within 3GPP.

Intrinsically Safe Radio Working Group

The Intrinsically Safe Radio Working Group was created in November 2010 to research and solve problems that will occur due to a change in the intrinsically safe standard for LMR. NPSTC is concerned about the potential implementation of FM Approvals revised Standard 3610-2010 because of the negative technical and financial impact on public safety users. The impact of the changes identified in this approval standard will extend far beyond basic product design considerations on portable radio equipment. Also impacted will be product interchangeability and compatibility, along with increased user training requirements. Further, significant system infrastructure expansion may be necessitated to maintain current geographic and in-building coverage, if funds and additional FCC channels/spectrum are even available.

The Working Group has asked FM Approvals and the International Society of Automation (ISA) why there is a need for a new standard as there have not been any safety issues with the current standard. The revised standard appears to be driven not by any concern that the existing standard is unsafe, but rather to harmonize the U.S. standard with international standards. The financial impact on public safety users is significant. An estimate done for Pinellas County, FL, estimates the cost at between $36 and $45 million. There would be an outrageous unfunded mandate to taxpayers in every state to accommodate a standard that does nothing to improve public safety communications. New equipment may not be compatible with current equipment. The new standard calls for reduced power levels that would require more infrastructure to allow communication.

In January, NPSTC issued a position paper that asks FM Approvals to re-affirm in writing its assurance that there are no safety issues with the current FM 3610-1988 standard and products approved to this standard can be safely used after 2011. ISA should revise, with FM Approvals' support, the ANSI/ISA 60079 standard to include the Division-rating system, the 1.5 safety factor on energy, and other key criteria now in the FM 3610-1988 standard. It asks FM Approvals to agree to support the changes in the previous sentence and to maintain the existing FM 3610-1988 intrinsically safe standard even if ISA does not make the changes proposed. TIA, Motorola, the American Petroleum Institute (API), and others have also submitted papers to FM Approvals.

TIA representatives announced that it will convene a new subcommittee, TIA-21, that will potentially develop a new ANSI standard for intrinsically safe LMR. NPSTC asked if FM would support an ANSI standard created outside of ISA and have not received an answer. OSHA is involved in the issue through its safety programs and their NRTLs [Nationally Recognized Testing Laboratories]. If FM and ISA don't respond to NPSTC's concerns, the question of whether OSHA will recognize a new TIA standard is unknown.

The Land Mobile Communications Council (LMCC) and Utilities Telecom Council (UTC) are following this issue closely and have endorsed NPSTC's work. LMCC wants a unified approach and has followed NPSTC's lead on the issue. NPSTC was on the agenda for the ISA Meeting on March 7, 2011. Intrinsically Safe Radios was also on the agenda at NPSTC's Current Events In Public Safety Community Workshop at IWCE on March 9 at 11:00 AM. There was also an IWCE "Lunch and Learn" Workshop on Intrinsically Safe Radio-Meeting the New Standards on March 10, moderated by Donald Jackson of *Urgent Communications Magazine*. NPSTC was represented on the panel with representatives from Motorola, Kenwood, Harris, FM Approvals, and Keller & Heckman, LLP.

PSWAC Follow-Up: Assessment of Future Spectrum and Technology (AFST) Working Group, The AFST Working Group presented the results of their web assessment questionnaire and follow-up focus groups held to determine future spectrum and technology needs, and also discussed the results of a separate web questionnaire on the use of 4.9 GHz.

AFST Assessment: The Working Group was developed to follow up on the 1996 PSWAC Project Final Report to study future spectrum needs, and technology and operational requirements for public safety through the year 2020. The Working Group issued an operational needs web assessment with more than 300 agencies responding and followed up with four Broadband Utilization Focus Groups in Orlando, FL; Houston, TX; Southern California; and Washington, D.C. The focus groups used tabletop exercises to determine projected needs at an incident. The list of applications generated across the country was very similar. The Working Group will estimate application throughput for the following:

- Video (airborne, vehicle mounted, helmet mounted)
- GIS (street layer, utility layer, photography)
- Incident Command White Board (exchange information between units)
- Automatic Vehicle Location (for all vehicles in area)
- Automatic Personnel Location (firefighter, officer location)
- Database access, such as criminal history and mug shots; building pre-plan data; hazmat, chemical storage data; and critical Infrastructure 3D building files
- Traffic management (cameras, roadway signs)
- Weather data

The Working Group has held several meetings with the FCC to review the AFST process and the use of the International Telecommunications Union (ITU) broadband model. The group has engaged broadband vendor engineering assistance to help interpret application throughput and incident spectral efficiency based on the spectrum needs envisioned in the real life scenarios generated by the focus groups. They are working with the Satellite Industry Association (SIA) on the issue of backhaul. SIA representatives have reviewed data backhaul needs at major incidents. Satellite links can be ramped up very quickly at a site and most satellite companies have "Occasional Use" contracts. Satellites have DS3 [a high-capacity circuit] capability on a single transponder. The Working Group is looking at contract options and reviewing the technical data.

Currently executive summary documents are undergoing internal review by AFST committee teams. AFST report sections will include: Operations, what public safety needs; technology, how it will work with new technologies; and spectrum, how much spectrum public safety needs based on this new information. There will be an internal and public review period with documents available on NPSTC's website.

4.9 GHz Assessment: The Working Group issued another online questionnaire that was active from January 17 to February 21, asking for feedback on the use of 4.9 GHz spectrum, whether or

not it is deployed, primary use, future use, and use at an incident scene. There were 261 opens, with 145 responses actually received. Results indicate:

- Primary use is point to point service to link radio systems
- Used to move IP data from point to point
- Occasional "hot spot" use
- Occasional video feed
- Few attempts to use at incident scene

Video Quality in Public Safety (VQiPS) Working Group
NPSTC has added a new Working Group on Video Quality. The Video Quality in Public Safety (VQiPS) Working Group is an existing group developed by OIC, and comprises representatives from public safety, academia, and industry, that accomplishes its work through the ITS lab in Boulder, CO. They have issued a public safety user's/buyer's guide to video systems that provides a vehicle for a user to correlate functional needs to technical requirements that will meet those needs.

The public safety community uses video applications in transportation, crime, and public works efforts. With emergency responders increasingly relying on closed circuit TV (CCTV) technology and systems, they have needed to increase their attention to video quality issues so that they can use and share images across disparate video systems. The first VQiPS conference was held in February 2009, where the group conceived a "Users Guide," and developed common definitions, a user requirements framework, and an investigation into applicable standards. The Working Group characterized the state of video quality as a situation where there is a "disconnect" between end users and manufacturers with no minimum level of performance metrics or standards. There are procedural, technological, and practical use challenges; a lack of education among end users and consumers; and interoperability challenges. Subsequent meetings deepened understanding of the needs and the development of a glossary of terms, compilation of generalized target recognition scenarios, and research of existing video quality standards.

In July 2010, the report *Defining Video Quality Requirements: A Guide for Public Safety* was released and is available at deoquality/videoquality.htm. The Consumer Digital Video Library is located at http://www.cdvl.org/. The VQiPS met again in February 2011 in Boulder, CO, where they reviewed their current effort, an interactive web based version of the guide. A near final draft is available at http://www.pscr.gov/outreach/vqips/vqips_guide/define_vid_qual_reqs.php.

Technology Education Working Group
Several new documents on LTE have been added to the web page.

Interoperability Committee

Monitoring Topics
NIFOG [National Interoperability Field Operations Guide] version 1.4 has been released, with links posted on the NPSTC website**.** A hard copy version will be available but general distribution will be limited due to costs associated with printing and mailing.

OEC is offering a 24-hour Auxiliary Emergency Communications course as part of its FY10-11 Interoperable Communications Technical Assistance Program (ICTAP) Technical Assistance catalog. The class is targeted at volunteer communicators supporting government communications and must be requested by state/territory Statewide Interoperability Coordinators (SWIC).

National Interoperability Channels A generic draft document based on input from a DHS/ICTAP report for the State of Nevada was distributed to the Governing Board at the November 2010 meeting. The draft is in generic (non state-specific) format and has been distributed to local and state agencies upon request. The document needs to be formalized and posted to the NPSTC website for use by any interested parties.

ANSI Revisions were approved by APCO's Standards Development Committee (SDC) on November 19, 2010, for submission to the American National Standards Institute (ANSI) as the first revision to the Channel Naming Standard. This revision adds names for the three pairings of the VHF Tactical Interoperability Channels. The Committee also developed a draft document for policy and procedures rules for the national interoperability channels.

Special Topic: 9/11 Committee. The 9/11 Committee, an effort suggested by OEC and developed by interested public safety volunteers around the country, has launched three initiatives to describe how much has been accomplished in public safety communications since September 11, 2001.

Project MESA. Project MESA has formally closed in December 2010 by agreement between ETSI and TIA. This item was removed from monitoring topics.

Amateur Radio Working Group

The Working Group monitored the work of the ARRL's concerns about one element of the King-Thompson Bill, H.R. 607. While strongly supporting the allocation of the D Block to public safety as an element of this bill, the ARRL opposes this legislation in its present form because it proposes to auction spectrum in the 420-440 and 450-470 MHz within 10 years as a "swap" for old public safety spectrum for new. Public safety is not the only occupant of these spectrum bands; amateur radio and other users operate in this spectrum as well. ARRL is handling this through their counsel, who wrote a letter to NPSTC, outlining the League's general concerns about the legislation.

Border Issues Working Group

The Working Group addressed several issues on the northern border. The FCC's PSHSB requested comments on Petitions for Rulemaking (PFR) filed in 2009 seeking authorization to continue to use the former National Public Safety Planning Advisory Committee (NPSPAC) 800 MHz band interoperability channels in the Canada-U.S. border areas. Petitions were filed by the 800 MHz Regional Planning Committees (RPCs) and the National Regional Planning Council (NRPC) with comments due March 14 and replies March 29 in WT docket 02-55.

The FCC's Public Notice (PN) asked a number of questions to assist the Bureau in deciding whether to release a Notice of Proposed Rulemaking (NRPM), such as, should use of the former NPSPAC Mutual Aid channels, if allowed, include only mobile/portable use or should use by infrastructure

(base stations) be permitted as well? Are there alternatives to the use of the former NPSPAC interoperability channels in the CBR [Canada Border Region] that would serve the same or essentially the same purpose and, if so, the nature and cost of such alternatives? On February 18, a conference call was held involving interested NPSTC members to begin work on a draft response to the FCC request.

ESF-2 Working Group

The Working Group added a new Chair, Keith Victor, Hartford, CT, Fire (ret). Several other volunteers are being considered for Vice Chair. An updated charter/scope was discussed to enhance coordination and cooperation with FEMA, to enhance coordination at the regional level between the Regional Emergency Communications Coordination Working Groups (RECCWGs) and NPSTC's broader membership within those regions, and improve coordination at the national level between FEMA and NPSTC's member organizations on communications-related issues.

Software Defined Radio (SDR) Working Group

Planning is underway for a September 2011 conference in Montreal on Cognitive Radio (CR)/SDR benefits across commercial, defense, and public safety sectors. Bi-weekly conference calls are being held for meeting planning. An agenda has been prepared and keynote speakers representing commercial, defense, and public safety sectors on both sides of the border have been or will be invited. CITIG will participate as well as representatives from the standards and technology agency in Canada.

Future NPSTC Activities

NPSTC's May meeting will be co-hosted by the Embassy of Canada in Washington, D.C. on May 16-17 through the generous invitation of NPSTC Associate Member, CITIG. Welcoming remarks will be made by Dr. Robert Griffin, DHS, Office for Interoperability & Compatibility (OIC), and Chris Essid, DHS, Office of Emergency Communications (OEC). Also speaking on behalf of DHS is Gregory Schaffer, Assistant Secretary, Office of Cybersecurity & Communications. Speaking for the State Department is Ambassador Philip Verveer, Deputy Assistant Secretary of State and U.S. Coordinator for International Communications and Information Policy.