



NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

National Public Safety Telecommunications Council Second Quarter Report 2009

This Quarterly Report documents the activities of the National Public Safety Telecommunications Council (NPSTC), its Governing Board, Committees, and Working Groups for the Second Quarter 2009. NPSTC is a federation of organizations whose mission is to improve public safety communications and interoperability through collaborative leadership.

Governing Board

During the Second Quarter 2009, NPSTC held its quarterly Governing Board and Committee meeting in Arlington, Virginia, on June 10-11, 2009. Ralph Haller, Chair, NPSTC, welcomed special guests Dr. David Boyd, Director, Command, Control and Interoperability, Department of Homeland Security (DHS); Kathleen Higgins, Office of Interoperability and Compatibility (OIC), DHS; Chris Essid, Office of Emergency Communications (OEC), DHS; Jim Downes, Federal Partnership for Interoperable Communications (FPIC); Chris Algiere, DHS; Chris Lewis, U.S. Department of Interior, and Jeff Cohen, Deputy Director, Public Safety and Homeland Security Bureau, Federal Communications Commission (FCC), who participated during the course of the 2-day meeting.

Mr. Haller was pleased to announce three new Governing Board representatives, Jack Doane, the new alternate representing the National Association of State Technology Directors (NASTD); Mike Lokatis, representing the National Association of State Chief Information Officers (NASCIO); and Chris Imlay, Amateur Radio Relay League (ARRL); and officially welcomed the new Vice Chair of the Interoperability Committee, Pam Montanari.

On behalf of NPSTC's Governing Board, Mr. Haller presented a plaque of recognition to George Carbonell, retiring alternate representative for the American Association of State Highway and Transportation Officials (AASHTO), thanking him for his valuable contribution to NPSTC. Bill Brownlow presented a plaque on behalf of AASHTO. The Governing Board also recognized Bette Rinehart, Chair, Editorial Review Working Group, and long-time supporter and reporter on the activities of the Regional Planning Committees (RPCs) for her continuous work behind the scenes in so many ways that provides valuable support to NPSTC.

DTV Transition Celebration: NPSTC celebrated the resolution of the 13-year quest for more spectrum for public safety as Friday, June 12, 2009, marked the magic date when all full-service television stations were to shut off all analog transmission and transmit only in digital format, vacating that portion of 700 MHz spectrum for public safety's use. Mr. Haller described the ups and downs that marked the history of the effort. The transition is a direct result of many public safety organizations speaking with a powerful and common voice to accomplish the goal.

Filings on Regulatory Issues

On behalf of its member organizations, NPSTC made the following filing in the Second Quarter 2009.

- NPSTC filed Reply Comments with the FCC on May 22, 2009. The comments were in response to the Petition for Rulemaking to Amend RM-11527 the Land Mobile-TV Sharing Rules in the 470-512 MHz Band. NPSTC was the original petitioner.

Presentations

The following presentations were made during the June 2009 Governing Board and Committee meetings:

- David Boyd, Director, Command, Control and Interoperability, Department of Homeland Security (DHS), on OIC programs including Virtual USA, Multi Band Radio, and the Critical Infrastructure Inspection Management System (CIIMS).
- Chris Essid, OEC, on Communications Unit Leader (COML) Training, Statewide Communications Interoperability Plan (SCIP) workshops, and technical assistance available through OEC.
- Jim Downes, Federal Partnership for Interoperable Communications (FPIC); discussed federal interoperability initiatives and resource-sharing projects.
- Harlin McEwen, Chair, Public Safety Spectrum Trust (PSST), on the 700 MHz public safety broadband network and waiver requests to build out broadband networks.
- Jeff Cohen, Deputy Director, Public Safety and Homeland Security Bureau (PSHSB), FCC, on current activities at the PSHSB and the FCC.
- Rick Finn, Canadian Interoperability Technology Interest Group (CITIG), on recent activities and issues facing CITIG.
- Bette Rinehart, Chair, Editorial Review Board, on FCC activities related to the 700 MHz and 800 MHz bands.
- Richard Reynolds, Vice Chair, National Regional Planning Council (NRPC), on NRPC activities.
- Chris Lewis, U.S Department of Interior, and Chris Algieri, DHS, on the federal channel naming conventions.
- Michael Hunter, on the Long Term Evolution (LTE) standard.
- Stu Overby, Vice-Chair, Spectrum Management Committee, on the end of the 700 MHz DTV Transition

Committee Action Items

At the June 2009 meeting, the Governing Board made the following decisions.

- At the request of the Interoperability Committee, the Governing Board approved:
 - Modifications to NPSTC's Common Channel Naming Report Naming Guide and the extension of editorial privileges to the Committee to allow updates to the Guide; and
 - NPSTC adoption of the following statement: *"NPSTC supports the principles of Incident Command System (ICS) and National Incident Management System (NIMS) and the efforts that go forward to support plain language across the domain."*

- At the request of the Spectrum Management Committee, the Governing Board approved:
 - A task force to develop comments re frequency coordination issues in 4.9 GHz and supporting the editorial correction of clerical omissions/errors in the 4.9 GHz rules.
 - Adding the EWA 800 MHz Petition for Rulemaking [see explanation under Committee report] as an item to be monitored under the Spectrum Management Committee;
 - Authorization for the Committee to draft a letter for Governing Board approval to go to the FCC enumerating open issues in the 700 MHz band that should be addressed;
 - Continued monitoring of the issue of wireless microphones in the 700 MHz band and the potential for interference;
 - Continued development of a Petition for Rulemaking to seek unused channels from the Narrowband PCS band at 900 MHz for public safety alerting; and
 - Closing the action item on digital television translators because the FCC has issued comments and the item has been completed.
- At the request of the Technology Committee, the Governing Board approved:
 - Joe Ross as Chair of the Public Safety Spectrum Requirements Working Group;
 - The statement: *“NPSTC will endorse LTE as the favored technology standard. This endorsement will become a final decision on July 1, 2009, unless a Governing Board member seeks reconsideration;”*
 - The creation of a 700 MHz Broadband Requirements Task Force and the appointment of David Buchanan, Chair, Spectrum Management Committee, as Task Force Chair; and
 - The reconstitution of the Technology Committee’s Broadband Working Group to support the Task Force as a technical resource.

Meetings and Conferences

During the Second Quarter, the Executive Committee (EC) and the Executive Director met in person and via teleconference to discuss program planning and future meetings. NPSTC holds monthly EC meetings and most of the Committees meet in teleconference monthly as well.

Common Channel Naming Meeting: On May 6, 2009, a meeting was held to discuss Common Channel Naming. A representative from the Department of Interior (DOI) discussed their role in the Inter-department Radio Advisory Committee (IRAC), which represents 214 IRAC co-chairs. A review of NPSTC’s history and participation in this project and progress thus far, was presented, along with the expressed interest in having federal channels loaded in public safety radios for future sharing and interoperability of the services. This action will fulfill an OEC milestone.

The National Emergency Communications Plan (NECP) milestone 3.1.33 reads, *“Within 6 months, American National Standards Institute (ANSI) certifies, and emergency response accreditation organizations accept, the NPSTC Channel Naming Guide as the national standard for FCC-designated nationwide interoperability channels.”*

The NPSTC Channel Naming Guide is under review for ANSI certification. The draft was finalized at the June NPSTC meeting and distributed via the Association of Public-Safety Communications Officials – International (APCO) for a 45-day public review and comment period from June 26-August 10, 2009. If no substantive changes occur through the process, the tentative final approval may be received this fall. However, if a number of comments regarding the candidate standard are received, then additional commenting and balloting periods may be necessary.

The Executive Director participated in the following meetings during the Second Quarter 2009:

- OEC, Industry Canada, and the FCC regarding border Issues.
- Commerce Department regarding Public Safety Interoperable Communications (PSIC) regarding grant environmental issues.
- OIC S&T Interview: Commercial Mobile Alert Service (CMAS) regarding proposed NPSTC participation with the stakeholder group.
- OIC regarding NPSTC assistance in the development of OIC curriculum for the high-level Rural Domestic Preparedness Consortium (RDPC) Interoperability Course.

Weekly Executive Task Force Meetings: In November, the Governing Board commissioned an Executive Task Force to conduct a critical review of NPSTC's mission and goals, the structure of the organization, support levels, meeting scope and meeting frequency, project priorities and resource requirements, and support options. The task force began meeting every Wednesday morning by teleconference on January 14, 2009, and reported its findings and recommendations to the Governing Board at its February and June 2009 meetings.

Weekly 700 MHz Broadband Network Requirements Task Force (BBTF): Following the June Governing Board meeting, the BBTF began weekly Friday meetings. At the first meeting, the Chair designated three Work Groups to cover Technical, Governance, and Operations issues. Each Work Group began meeting weekly by teleconference as well with a 2-day planned face-to-face meeting at the National Institute of Standards and Technology (NIST) in Boulder, Colorado.

NIIX

The National Interoperability Information eXchange (NIIX) activities include website maintenance, community development/user support, training, and outreach presentations. NIIX provides the states virtual, secure communities for sharing documents and for supporting their statewide planning documents. The NIIX tool is offered to communities related to the mission of NPSTC, OIC, and OEC that request the creation of NIIX communities to share and store documents. NIIX activities include meeting support, website maintenance, community page development, training sessions, outreach presentations, and customer service.

NIIX Enhancements

New Wiki Mechanism: NPSTC developed a draft Wiki Integration Project Plan to include a schedule for populating the new tool and announcement to NIIX users. A wiki is essentially a database for creating, browsing, and searching through information, such as Wikipedia. A wiki is a collection of web pages connected by hyperlinks and designed to allow anyone to contribute or modify content, using a very simplified markup language. Instructions and examples for using the markup language to contribute to the wiki will be on the NIIX website.

Threaded Discussions: A Threaded Discussion (Forum) tool was integrated into NIIX on May 11, 2009. An announcement for the Forum was posted, along with a training schedule on the NIIX home page. A threaded discussion is an electronic discussion that groups messages in a hierarchy by topic. Threaded discussions typically allow users to reply to a particular posting within a topic's thread.

Training Assistance Community: NPSTC began development of a training community to assist with NIMS and other new users or community coordinators.

Community Development/User Support

The following support was provided to NIIX users: of 232 events, there were 63 support calls, 1 update to announcements, 109 emails, 2 notifications to all NIIX users, 125 user activations, and

32 +/- re-activations. Support was provided in developing Community pages and Coordinator training sessions for the following:

- Gulf Coast Interoperable Communications Cooperative
- New Hampshire – ICTAP
- Indiana – ICTAP
- New Tennessee Communities
- National Welcome Message
- NIIIX Forum
- Region 51 Planning
- Plain Language – Office of Emergency Communications (OEC)
- Gulf Coast Interoperable Communications Cooperative
- Broadband Task Force, and each of the Work Groups, Technology, Operations, and Governance

Website Maintenance

Along with the routine website maintenance, effort included analysis of the current tracking system and web page structure which will assist in streamlining website layout and functionality. Changes also included the addition of an alert box for a Volunteers Wanted and Volunteer Form links for the overview page and Committee web pages. NPSTC's Meeting Page was updated to include the next meeting page, agenda, documents, future meetings updated, and past meeting documents archived.

Publications

NPSTC Internal Publications

June Newsletter – npstc quarterly: The second quarter newsletter was completed and distributed at the beginning of June 2009 via the NPSTC website. The "Member Spotlight" article was developed by the National Association of State Technology Directors (NASTD). Additional articles for the newsletter include information on the 700 MHz DTV clearing history, U.S./Canada Interoperability Workshop in Niagara Falls, amateur radio, and regulatory updates.

Regulatory Update – April, Special April edition, May, and June/July 2009: Regulatory Updates, an electronic publication of NPSTC, are issued monthly.

Press Releases

- NPSTC Invites Participation in National Discussion of Minimum Requirements for Regional Build-out of 700 MHz National Broadband Network was distributed on June 3, 2009 to announce NPSTC's invitation to a national discussion of the minimum requirements for the 700 MHz national broadband network.
- NPSTC Votes To Endorse LTE Technology for Broadband Network was distributed on June 10, 2009, to announce the unanimous vote to endorse Long Term Evolution (LTE).
- NPSTC Celebrates Long-awaited Arrival of 700 MHz Spectrum for Public Safety released on June 10, 2009.
- NPSTC To Develop 700 MHz Requirements was distributed on June 12, 2009, which sparked a number of articles and announcements.

Article Repository

Industry Revisits Fate of D Block Spectrum	Sandi Wendelken	Mission Critical	700 MHz	IACP GB rep quoted	Apr-09
TERT Standard Document Available for Comment	Editor	Mission Critical	911	APCO GB Alt quoted	Apr-09
Meeting Among Public Safety Groups Aims To Find D Block Consensus	Sandi Wendelken	Mission Critical	700 MHz	NPSTC Ex Dir and IACP GB rep quoted	Apr-09
4.9 GHz Band Gains Primary Status for Some Applications	Editor	Mission Critical	4.9 GHz	NPSTC Outreach Vchair quoted	Apr-09
PSST Seeks Greater Consensus on 700 MHz Broadband	Donny Jackson	Urgent Comms	700 MHz	NPSTC IACP Rep Interviewed	Apr-09
APCO is the Leader	Teresa McCallion	APCO PS Comms	Governing Board	Chair Emeritus quoted, NPSTC mentioned	Apr-09
NPSTC Requests Amended UHF Rules for TV Sharing	Editor	Mission Critical	FCC	NPSTC asks FCC to amend rules for 470-512 MHz	May-09
FCC Urged to Address 700 MHz Low-Power Devices	Editor	Mission Critical	700 MHz	NPSTC part of group ex parte to FCC	May-09
APCO Awards	Robert Gurss	APCO PS Comms	Governing Board	IACP GB Rep honored by APCO for advocacy	May-09
PSST Responds to 700 MHz Waiver Requests	Donny Jackson	Urgent Comms	700 MHz	IACP GB rep quoted on regional buildouts	May-09
Public Safety Representatives Seek United 700 Front	Donny Jackson	Urgent Comms	700 MHz	IACP GB rep quoted on unified front	May-09
APCO Expresses Support for PSIC Delay Legislation	Donny Jackson	Urgent Comms	Interoperability	APCO GB rep quoted	May-09
Public Safety to Petition Congress for 700 MHz D Block Spectrum	Editor	Mission Critical	700 MHz	IACP GB rep quoted	May-09
Public Safety Official Says Outlook Positive for National Broadband Network	Editor	Communications Daily	700 MHz	IACP GB rep quoted	May-09
APCO Supports Extension of PSIC Grant Program	Editor	Mission Critical	Interoperability	APCO GB rep quoted	May-09
Panelists Disagree on Best Path Forward for 700 MHz Band D Block	Editor	TR Daily	700 MHz	IACP GB rep quoted	May-09
FCC Amends Rules for Replacement Digital Translator Stations	Editor	Mission Critical	Spectrum	FCC agrees with NPSTC's recommendation	May-09
PSST Submits Response to 700 MHz Waiver Requests	Editor	Mission Critical	700 MHz	IACP GB rep quoted	May-09
Public Safety Groups Agree to Seek the 700 MHz D Block	Donny Jackson	Urgent Comms	700 MHz	IACP GB rep quoted	Jun-09
Public Safety Groups Support LTE at 700	Donny Jackson	Urgent Comms	700 MHz	NPSTC Chair quoted, NPSTC action cited, APCO rep quoted	Jun-09
NYC Files 700 MHz Waiver Request for Broadband Network	Donny Jackson	Urgent Comms	700 MHz	NPSTC cited	Jun-09
NPSTC Meeting to Address Minimum Standards for 700 MHz Networks	Editor	Mission Critical	700 MHz	NPSTC cited	Jun-09
DTV Transition Deadline Finally Arrives	Editor	Mission Critical	DTV	NPSTC cited	Jun-09
NPSTC Forms Task Force for New 700 MHz Broadband Requirements	Editor	Mission Critical	700 MHz	NPSTC cited	Jun-09

APCO and NENA Endorse LTE for 700 MHz Public-Safety Broadband	Editor	Mission Critical	700 MHz	NPSTC cited, and GB orgs, APCO and NENA	
NPSTC Votes To Endorse LTE Technology for Broadband Network	Nick Ruark	Private Wireless Forum	700 MHz	NPTSC cited	Jun-09
Public-safety task force begins 700 MHz work	Donny Jackson	Urgent Comms	700 MHz	NPSTC cited, Task Force Chair quoted	Jun-09
As 700 MHz plans heat up, don't forget the costs involved	Lynette Luna	Urgent Comms	700 MHz	NPSTC cited	Jun-09
700 MHz flurry encouraging for public safety	Donny Jackson	Urgent Comms	700 MHz	NPSTC cited	Jun-09
NYC files 700 MHz waiver request for broadband network	Donny Jackson	Urgent Comms	700 MHz	NPSTC cited	Jun-09
June 12, 2009--A major milestone reached on the long road to 700 MHz	Stu Overby	npstc quarterly	700 MHz		Jun-09
U.S. Canada Niagara Falls Meeting focuses on a unified approach to cross-border communications	Terry LaValley	npstc quarterly	Interoperability		Jun-09
Spotlight on the NASTD	Paul Czarnecki	npstc quarterly	Governing Board		Jun-09
Message from the Chair	Ralph Haller	npstc quarterly	Governing Board		Jun-09
Director's Column	Marilyn Ward	npstc quarterly	Governing Board		Jun-09
Regulatory Update	Bette Rinehart	npstc quarterly	Regulatory		Jun-09
Since We Last Met	Jackie Bayless	npstc quarterly	Regulatory and DHS		Jun-09
FEMA Offers valuable technical assistance to PSIC grantees	Jackie Bayless	npstc quarterly	DHS		Jun-09
NPSTC and Amateur Radio, a valuable partnership	Jackie Bayless	npstc quarterly	Governing Board		Jun-09

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.

Committee Reports

Interoperability Committee

The Interoperability Committee monitors the following topics:

Project 25 Compliance Assessment Program (CAP): DHS recognized eight laboratories on May 4, 2009, to provide CAP testing of subscriber units, base stations, and repeaters for the Common Air Interface (CAI). The P25 CAP establishes an independent compliance assessment process to ensure communications equipment interoperates, conforms to P25 standards, and meets performance requirements. The Inter-Sub-System-Interface (ISSI) will be the second interface to be added to the CAP.

DHS will post test results and a Suppliers Declaration of Compliance (SDoC) on the Resource Knowledge Base website at www.rkb.us. One of the keys to this program is its governing board, which is made up of users and practitioners who decide what needs to be tested based on recommendations from NIST and the P25 Group. NPSTC is grateful for the partnerships and

support from DHS, S&T, OIC, the National Institute of Standards and Technology (NIST), and the active participation of the manufacturers in creating this valuable compliance program.

Project MESA: Project MESA, a European standards body, seeks continued U.S. participation; however, as the Telecommunications Industry Association (TIA) is no longer active in MESA and the TR 45 Working Group has declined to join, apparently there is no North American sponsor for participation in MESA.

Communications Unit Leader (COML) Training: Almost 1,000 students had completed the COML class by June 2009 date, with Train-the-Trainer classes to begin in July. OEC provides a certificate of completion to students, but the states actually certify the COMLs. A position-specific Task Book must be completed by students after the class before they are considered "qualified." How each state manages COMLs after completion of the class and Task Book is up to them. States should begin to create certifying processes within their own state. OEC has also developed a communications unit awareness course, a high-level course for command staff.

NECP: The Committee monitors the implementation of the NECP and how OEC will assess compliance with the state and local goals. Goal One is that "by 2010, 90 percent of all high risk-urban areas designated within the Urban Area Security Initiative (UASI) are able to *demonstrate response level emergency communications within 1 hour for routine events involving multiple jurisdictions and agencies.*" Response-level emergency communications is defined as the capacity of individuals with primary operational leadership responsibility to manage resources and make timely decisions during an incident involving multiple agencies, without technical or procedural communications impediments." Most UASIs have already achieved this goal; OEC is developing preliminary incident evaluation criteria to measure it through a web-based tool that is used by other federal programs.

Plain Language: In 2006, plain language became a NIMS requirement. In 2007, the Emergency Response Council (ERC) issued a statement, noting that within "24 months, the standard for public safety radio communications shall be plain language and common terminology." The ERC also issued some minimal guidelines at that time. In March 2008, SAFECOM's EC issued this statement, "We support radio practices that minimize or eliminate coded substitutions for English." In July 2008, a Plain Language Guide was published outlining an approach for emergency response agencies, localities, and states to replace coded language radio transmissions with plain language. The NECP and many SCIPs include goals and milestones for plain language use.

This April 2009, the practitioner-based Plain Language Working Group was launched by OEC to identify lessons learned and best practices. There are political challenges to making this change. In July 2009, the Plain Language Working Group hopes to release additional guidance in the form of a lessons learned/proven practices document. Once the guide is out, the group will be looking for support from other organizations to incorporate plain language across the country, and is asking NPSTC to encourage their member organizations to allow presentations on why plain language is valuable. It was noted in discussion that without a common dictionary, plain language is no different than 10 codes, and that many words are based on state statutes.

NPSTC's Governing Board voted to adopt the following statement: NPSTC supports the principles of ICS and NIMS and the efforts that go forward to support plain language across the domain.

Border Issues Working Group

NPSTC's Chair of the Northern Border Task Force participated in the May cross-border communications workshop in Niagara Falls, New York, co-sponsored by OEC, CITIG, and Public Safety Canada. There were 150 participants attending the working meeting. The discussions covered administrative and operational issues, and, not surprisingly, spectrum was a hot topic. The

Chair called the meeting very positive and an opportunity to accomplish real movement on the issues. The goal was to discuss the problems and develop best practices within the real problems caused by lack of spectrum on the border.

There are issues with Line "A" regional interoperability on both sides of the border. Regional changes are needed to facilitate obtaining spectrum for development of interoperable radio networks. The U.S. set aside channels in the VHF and UHF spectrum are not coordinated with Canada. The 800 MHz spectrum originally harmonized with Canadian channels has been changed by rebanding, while 700 MHz channels are being internationally discussed to ensure alignment, however, this is not an optimal choice for public safety users in many of these regions.

As a result of the meeting discussions, the sponsors will develop a white paper to describe Industry Canada (IC) and the FCC engineering models used in spectrum management and standardize engineering models between both countries and applicants. There was agreement that spectrum sharing on the border is too conservative for spectral efficiency. The FCC and IC will review a U.S./Canada 1952 Convention document that refers to interoperability and use of channels when conducting official business in the U.S. and Canada. IC will study and audit VHF and UHF spectrum on the border. A complaint from applicants for licensing with Canada has been that the notifications from IC regarding Harmful Interference Anticipated (HIA) provide only a file number. At the conference, IC agreed to add the call number of the licensee and proactively made the change while the conference was still underway,

Channel Naming Working Group

At the June Governing Board meeting, representatives of Ad Hoc 214 of the Interdepartmental Radio Advisory Committee (IRAC), reported on the development of a federal position regarding the naming conventions for the federal interagency and law enforcement interoperability channels (IR LE). Following meetings and discussions with NPSTC and federal stakeholders, the decision was made to maintain the current known federal IR and LE channel names. This solution went to the IRAC, which approved the decision. The National Telecommunications and Information Administration (NTIA) is drafting a letter to OEC and NPSTC stating the channel names will remain the same.

NPSTC's *Common Channel Naming Report* will be updated to incorporate the changes and other updates made to address changes since the initial release. Once approved by NPSTC, these documents will go to APCO to continue the process of the ANSI accreditation process.

Software Defined Radio Working Group

The Working Group continues to communicate with the Software Defined Radio (SDR) Forum although funding in that group has been an issue. There are now software defined radios on the market with features that have been developed through the feedback provided to manufacturers by SDRF's Public Safety Special Interest Group (PS SIG).

Outreach Committee

NPSTC Participants supported a booth at the International Wireless Communications Expo (IWCE) where NPSTC's Governing Board hosted a brainstorming session to introduce interested participants to NPSTC. NPSTC's Governing Board will host a panel at the next APCO meeting.

Editorial Review Working Group

The group has developed a new publication, NPSTC's electronic regulatory update, which goes out monthly, and which had an additional special edition in April. The Working Group has reviewed

NPSTC's Quarterly newsletter, Annual Report, meeting minutes, First Quarter 2009 report, and articles for the International Association of Fire Chiefs (IAFC) and the International Municipal Signal Association (IMSA).

National Interoperability Information Exchange (NIIX) Working Group

From February to June 2009, NIIX added 11 communities and 190 new users. It has enhanced functionality with the addition of threaded discussions and a "wiki" will be added in the future. Many international users are making requests to participate in the system.

Participant Development Working Group

The Working Group provided resource assistance to six new volunteers. For participants who are interested in attending the Committee meetings held by monthly teleconference, the following schedule is generally observed. The Outreach Committee meets the third Monday of the month; Spectrum Management on the second Friday of the month at 10:00 am EST; Technology on the second Tuesday of the month at 2:00 pm EST; and Interoperability, as needed. Forms for Working Group volunteers are posted on the NPSTC Website at <http://www.npstc.org/projects.jsp>.

Website Review Working Group

The most recent changes to the NPSTC home page feature NPSTC's quarterly newsletter, now available online, a "countdown to narrowbanding" feature, and buttons linking users to hot topics.

Spectrum Management Committee

The Spectrum Management Committee monitors the following topics:

4.9 GHz: The FCC decision on 4.9 GHz elevated permanent fixed point-to-point and point-to-multipoint links associated with a broadband system to co-primary status with respect to mobile operations. Narrowband permanent fixed links remain secondary. In a companion Further Notice of Proposed Rulemaking (FNPRM), the FCC seeks comment on coordination procedures among the different types of operations to help minimize interference and maximize use of the band. Comment is also sought on the FCC's intent to correct a typographical error in the rules regarding an action to reinstate the frequency coordination exemption, which was inadvertently removed; correct an error in the band plan; and clarify center frequencies. Comments on both the frequency coordination issues and the clerical corrections are due on July 20 on the FNPRM, with replies due August 19. The Spectrum Committee agreed to assemble a task force to discuss the coordination issue, develop specific recommendations, and develop draft comments on both the coordination and clerical correction issues raised in the FNPRM. The Committee will have a draft to the Governing Board by July 10.

During the June NPSTC meeting, the Spectrum Management Committee also provided additional information regarding the FCC's 4.9 GHz frequency coordination proposal and sought input from the meeting participants. The FCC proposes that fixed microwave coordination procedures under 101.103(d) be applied to the 4.9 GHz band. Those procedures require an applicant to provide technical information notifying everyone that could be affected in an area prior to submitting an application to FCC. The issues are whether NPSTC should support coordination for fixed point-to-point and point-to-multi point; whether the specifics proposed for the coordination are the right ones; and whether NPSTC should suggest that coordination apply to mobile operations as well. In discussion during the meeting the following comments were made.

- The rule is unclear on who must be notified; the rule refers to "those the applicant might affect or those who might affect the applicant."

- It is unknown who has the responsibility for interference mitigation against incumbent communications during a disaster response.
- There is a placeholder for 4.9 GHz in Computer Assisted Pre-coordination and Resource Database System (CAPRAD). It has not yet been built out but there are plans to do so.
- There is minimal information on 4.9 GHz licensed systems in the Universal Licensing System (ULS) database because mobile licenses authorize use of the entire 50 MHz over a licensee's jurisdiction. An applicant wanting to use the spectrum would have to collect information on what is fixed, in addition to point-to-point, or point-to-multi point to perform any coordination.
- NPSTC could advocate a requirement that regional plans designate specific channels for point-to-point and point-to-multi-point so there is not an issue regarding who to notify on the fixed side, however the mobile aspect makes this coordination very difficult.
- One option is to recommend that licensing move to Part 101 out of Part 90. Microwave uses a different schedule, under the Form 601, which provides a tremendous amount of information about each station. Appropriate sections of Form 601 could be used when applying for a license. Existing licensees could be grandfathered in but within an appropriate amount of time they would be required to re-file under Part 101. The FCC database, which is public, should be the place to store the data rather than CAPRAD, which is not accessible to all. However, this would significantly slow down the authorization of public safety 4.9 GHz licenses.

The Spectrum Management Committee requested and obtained volunteers for its task force to discuss and plan a response to this complicated issue and to ensure the plan is useable. Also noted during discussion was the need for the educational piece; 4.9 GHz means different things for different users, video streaming, cost savings, etc. avoid a haphazard technology.

PSWAC/NCC Follow-up: The Government Accounting Office (GAO) asked NPSTC for information on the status of Public Safety Wireless Advisory Committee (PSWAC) and National Coordination Committee (NCC) recommendations. The Spectrum Management Committee and Governing Board developed a response, including a chart that summarized the major recommendations (<http://www.npstc.org/archivedMeetings.jsp>), progress as of March 1, 2009, and remaining actions needed. The Spectrum Management Committee reviewed the status of key items during the June meeting and recommended it as a resource for the Technology Committee activities. The Spectrum Management Committee will support the Technology Committee as needed.

American Recovery Act: As part of the American Recovery and Reinvestment Act of 2009, the FCC must submit a National Broadband Plan to Congress by February 17, 2010, which will describe how the nation can ensure broadband availability to every citizen. In order to develop this plan, the Commission has released a Notice of Inquiry (NOI) and is seeking comment from the consumers, industry, large and small business, state and local governments, and any other interested party. NPSTC will review the comments, which were due June 8, 2009, and determine if NPSTC should develop reply comments, which are due July 7, 2009. [Note- the due date for Reply Comments was later extended to July 21, 2009.]

EWA's 800 MHz Petition for Rulemaking: EWA seeks to permit licensing of full power 12.5 kHz "interstitial" frequencies while protecting adjacent incumbent 25 kHz licensees. The interstitial frequencies would be limited to 12.5 kHz. There is no proposal to require incumbent 800 MHz licensees to narrowband; the National Public Safety Planning Advisory Committee (NPSPAC) and Enhanced Specialized Mobile Radio (ESMR) frequencies are exempt; and interstitial frequencies would be general category. EWA proposes technical parameters to protect licensees on existing 25 kHz channels.

Interstitial channels have been successfully coordinated by using a TSB-88 model, which is similar to EWA's approach to protect incumbent systems from interstitials. In anticipation of the need for future comments on the EWA petition, the Spectrum Management Committee will identify benefits and concerns and will ask NPSTC's Chair to discuss the issue with EWA before NPSTC files any comments.

470-512 MHz Working Group

NPSTC's PFR, filed in February 2009, proposed that the FCC adopt the same protection standards for the 470-512 MHz T-band as it adopted at 700 MHz. The changes to rules on the T-band would expand the maximum area where land mobile is allowed from 50 miles from center city coordinates to approximately 80 miles.

All of the comments to the FCC were supportive including those of the National Association of Broadcasters and the Association of Maximum Service Telecasters. Reply comments were equally supportive. Radio Soft suggested that Hartford, Connecticut, should be included and that the protection standards for DTV into Land/Mobile should be reviewed to see if they are adequate because of a potential interference concern. The FCC may issue an NPRM by the end of the year.

700 MHz Working Group

DTV Transition: As part of DTV transition, the FCC issued an NPRM on Digital Replacement TV Translators on December 23, 2008. NPSTC submitted comments on January 12, 2009, supporting the FCC proposal not to allow digital replacement translators in the 700 MHz band. NPSTC recommended that digital translator applications not be accepted within the interference range of 470-512 MHz LMR systems as well. The FCC issued its decision on May 8, 2009, stating that digital replacement translator operations are allowed only in core band TV channels 2-51; and, "Per NPSTC's recommendation, we [FCC] clarify that replacement translator stations are subject to the interference protections to land mobile station operations in the 470- 512 MHz band set forth in the rules."

Open Issues in 700 MHz: There are a number of open issues in 700 MHz, regarding the 7th NPRM and NPSTC's petition. The Working Group researched those issues and prepared a chart describing specific items. (<http://www.npstc.org/archivedMeetings.jsp>). Regarding the 7th NPRM in Docket 96-86, the FCC needs to resolve some long-standing issues, but there are a number of items from that NPRM that the FCC will probably not address with any actions as they are outdated. In the NPSTC petition filed in February 2008, RM 11433, Public Notice DA 08-1422 (6/6/2008), there are a number of issues that require follow-up. A status update and some follow up will also be required on some issues concerning the international borders. The Spectrum Management Committee will draft a letter for Governing Board approval that would go to the FCC enumerating the items that are open and that should be addressed.

Wireless Microphones: In response to NPSTC's letter on wireless mics in 700 MHz and the potential for dangerous interference to public safety, the FCC has an open rulemaking to address wireless microphones (WT 08-166). NPSTC, APCO, the National Emergency Number Association (NENA), and CTIA have submitted additional clarification letters urging the Commission to act. The delay could be due to the DTV transition or the confirmation hearing for the new Chairman. The Committee agreed to continue to monitor the issue and follow-up with the FCC once the new Chairman is confirmed.

700 MHz Narrowband Relocation Plan: At this time, with issues surrounding the 700 MHz broadband network in flux, the issue of 700 MHz narrowband relocation remains unresolved. There is strong need for a mechanism and funding to relocate the existing narrowband 700 MHz systems to conform to the revised band plan, which is a necessary step in deploying broadband. The

original plan was to have the D Block auction winner(s) fund the relocation. The PSST recommended to NTIA that the relocation be eligible for stimulus grant funding. The PSST has no control over the process until the FCC moves forward. Under the 700 MHz auction scenario, the Public Safety Broadband Licensee (PSBL), currently the PSST, is to be responsible for the task of relocation and it is to be paid for by the D Block winner. Also, the \$10 million limit the FCC set for the relocation task is inadequate, even if there is a subsequent D block auction.

Airborne Video Working Group

The Working Group has surveyed five agencies using airborne video and plans to survey three or four others, but the group still needs input from other agencies using airborne video or those that want to implement such operations. The agencies surveyed were using TV news-gathering frequencies under agreements with broadcasters, 4.9 GHz under FCC waivers, or federal spectrum under local agreements with the FBI or National Guard.

Los Angeles County, California, is evaluating a satellite service, and recent tests have been positive. TV spectrum in major markets is crowded and it is hard to coordinate immediate use of a channel; 4.9 GHz has height and geographical limitations and the potential to interfere with ground operations is high. The use of federal spectrum is limited. Satellite use has good potential if it is cost effective and it works. After additional research, the Working Group plans to develop best practices for agencies seeking airborne video use.

Wireless Alerting Working Group

Last July, Working Group representatives and others from NPSTC met with the FCC to discuss paging spectrum and the benefits for public safety, encouraging the FCC to audit the band for under utilization by the commercial carriers. NPSTC filed comments in a 900 MHz land mobile band proceeding requesting that the FCC conduct an audit of the 900 MHz two-way paging band and make a portion of the band available for public safety use. The FCC issued a Report and Order in October 2008 denying NPSTC's request to access the Business Industrial Land Transportation 900 MHz land mobile band for paging spectrum, but adding that the Wireless and Homeland Security Bureaus will discuss how spectrum can be made available to public safety for alerting.

The Working Group had drafted a PFR specifically requesting that the 900 MHz 2-way paging band be audited and that vacant channels be made available to public safety for alerting systems. Open issues discussed at the meeting were how many channels to request and whether the petition should focus on channels for nationwide or regional operations. Public safety would need enough spectrum to be available in all areas of the country, but not necessarily in the same frequency. Some pushback from the commercial community should be expected, but the FCC is considering doing audits in other areas. NPSTC is more likely to be successful if public safety asks for a more modest amount of spectrum. The PFR will request that once idle channels are identified, they should be made available for public safety use. The Working Group will revise the PFR accordingly and provide it to the Governing Board for review.

Technology Committee

In-Building Working Group

The In-Tunnel white paper, requested as a supplement to the original In-Building Best Practices White Paper, is in the editing stage. Work on the BBTF has superseded the expected delivery date. The Working Group will have a draft for Governing Board approval at its November 2009 meeting.

Technology Education Working Group

The Working Group is developing new products for the Technology Education web page, including LMR 102, Project 25, and Understanding 4G Technologies such as Long Term Evolution (LTE).

Public Safety Spectrum Requirements Working Group

This new Working Group will assess the current state of technology and the implications of current and expected technology from a spectrum perspective as it relates to the PSWAC Report.

The Technology Committee is monitoring the following issues.

C Block: The Technology Committee is researching an issue that has been raised about whether there is the potential for interference from broadband operations to 700 MHz narrowband voice systems. To date, there is not an answer. The Committee has developed a task force to discuss the issue, to determine if it is an issue, and the types of tests that may be ongoing. If there is the potential, the interference would be very similar to the Nextel interference but it would be coming from the broadband device, not the base station and may be very hard to detect.

700 MHz Requirements: The Committee facilitated a discussion of the minimum requirements that would be needed for a 700 MHz Broadband National Interoperability Framework to help ensure interoperability and roaming across all systems deployed. Based on meetings of major public safety organizations and waiver requests being filed by cities seeking to build their own broadband networks, the original premise of a nationwide system seems to be evolving to a regional approach that will eventually become a nationwide system. The change to regional creates new issues to be decided including applications, roaming, security, and devices, peer-to-peer or peer-to-network.

Air Interface Discussion: APCO and NENA issued a press release in early June stating that LTE is their preferred 700 MHz broadband technology standard. LTE is the choice of Verizon and AT&T, but has no talk-around capability. Sprint and Clearwire use WiMax, which does not have talk-around capability either. The technology may exist to support both standards in one handset. The following issues were raised in discussion.

- Does public safety really need a standard or protocol that supports peer-to-peer or would a multi-mode device with LTE and a second mode in that device that is standardized provide the peer-to-peer mode?
- The FCC has said they can only make a requirement for standards that are ANSI standards. The 3rd Generation Partnership Project (3GPP) standards organization could “cross walk” the standards over to an ANSI-accredited standard.
- The requirement for talk around (also known as peer-to-peer, or off network) mode may not be needed up front; the basic requirement is providing communications in the absence of fixed infrastructure and there are other ways to solve that in broadband communication systems.
- It is important to remember that a radio may be the only device a responder has in his hand when he is in trouble. Commercial networks are limited to 6/10 of a watt in devices, while public safety has up to 3 watts of power recognizing that public safety needs higher power to talk unit-to-unit, if off the network. In an emerging incident, there is not time to wait for a deployable device; it needs to work immediately to others in the range of the device.
- As public safety looks at protocol and operational standards, the inference is that public safety is building a data network that at some point will support voice, too. Peer-to-peer is important, but from a data standpoint, the user is on a network. Does the user need the ability to move data if the network is not available? Data transmission can be done through

the network, but what if the network is not responding in a building with poor coverage? A number of areas will build out before the nationwide network so decisions must be made soon to avoid too many different peer-to-peer regional networks as the national network develops later.

- Public safety needs to include peer-to-peer support networking even for data. Public safety already has the P25 standard for peer-to-peer voice so there could be a dual mode P25/broadband handset, but the requirement is a challenge for broadband speeds where there are many different technologies and different frequencies. Technically manufacturers can make dual chipsets, but public safety is such a small market that it is not likely. The issue of economies of scale is one of the major reasons APCO and NENA issued their support for LTE.
- In choosing an interface, public safety needs to consider three factors, price, technology comparison to the requirements, and the choice of multiplicity of form factors that meet public safety needs especially for subscriber devices. Public safety should also consider how the technologies handle prioritization and preemption.
- NPSTC should ask the reasons public safety should choose WiMax rather than LTE. Public safety needs to weigh the issues, but is not hearing from WiMax supporters. NPSTC needs to document why LTE is the best or not, and to complete the exercise of examining strengths and weaknesses of the standard. A strong reason to consider LTE is because ATT and Verizon are going to build 700 MHz LTE systems and there is not a similar effort in the WiMax community. WiMax has a 700 MHz profile id planned for the Fourth Quarter.

Roaming Discussion: The questions that inform this issue include: Can public safety duplicate cell companies roaming schemes? Does public safety need a nationwide IP directory? Should there be a federated authentication model? How does public safety share charges/information between regional systems and/or carriers? It is assumed that the regional systems would be built out by waiver and/or subsequent rule changes, and one of the conditions would be roaming access.

- It was noted that there have been local providers around the country that did not want to participate in a cell roaming scheme so this plan must include guaranteed roaming agreements.
- Washington, D.C. has roaming agreements that are preplanned by the Council of Governments (COG); the other scenario to consider is ad hoc roaming for incidents such as hurricanes.
- Regions must allow public safety roaming but the question is how an agency allows it, at what level, and the priority of their use. If roaming is allowed, questions need to be answered as to how it works; what needs to be done to facilitate it; how it works with public safety networks; and how it works with commercial networks. If LTE becomes the chosen standard, some of those answers will be provided by the requirements of the standard.
- Regions seeking waivers have to get agreement with the PSST, which can define and make roaming part of the agreement.
- Does a single point of coordination need to be the “trust exchange” between these systems, and if public safety chooses a federated approach, is there a need for a control center to validate certificates to roam. There are companies such as VeriSign that support cellular companies that have a great deal of experience in ensuring that roaming and billing works as promised and making sure clients get their data.
- The statements from associations and the early regional buildout have had a tremendous effect. Speaking with one voice creates momentum in the “wireless ecosystem.” Whatever

form the network takes, it is critical to have public/private partners. If NPSTC supports a standard, it will make the D Block more attractive to a bidder.

Applications: The issues include what the minimum set of applications regional networks should provide such as access to NCIC or other database searches, location services, text messaging, Internet access, and/or VoIP? Regional networks should have the right to choose additional applications to meet their operational needs beyond those basic applications identified for interoperability. .

Security: The issues include how to restrict access to public safety only and application access.

Device Requirements: The issues include whether talk around requires standard/compatible devices, whether public safety must have a ruggedized device, and what needs to be standardized.

Next Steps: Prior to the Governing Board meeting, NPSTC had discussions on partnering with OIC, particularly with NIST, to develop minimum interoperability requirements for a 700 MHz broadband network. Dr. Boyd agreed to this partnership and supports the nationwide effort. The Technology Committee requested that the Governing Board authorize a task force to investigate the issues of regional deployment and the minimum interoperability requirements for that deployment, and to reconstitute the Broadband Working Group to address the technical requirements. The Governing Board approved the request.

Future NPSTC Activities

On November 20, 2009, NPSTC will hold a Governing Board Planning meeting at a member's complimentary venue, the Hall of States, Washington, D.C., with a half day designated for the NPSTC Committees to provide a brief summary of activities. The Committee meetings are open to the public and to participants joining via teleconference.