



NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

**National Public Safety Telecommunications Council (NPSTC)
Governing Board Meeting
International Wireless Communications Expo (IWCE)
Las Vegas, NV
March 20, 2015**

Welcome, Doug Aiken, NPSTC Vice Chair

Doug Aiken, Vice Chair, National Public Safety Telecommunications Council (NPSTC), called the meeting to order and called the roll, establishing a quorum was present. He thanked Mike Corey, American Radio Relay League (ARRL), for shipping the AV equipment to the meeting, and David Eierman and Bette Rinehart for their welcome Dunkin' Donuts contribution.

Signing of MOU with University of Melbourne's Centre for Disaster Management and Public Safety

Ralph Haller, NPSTC Chair, and Geoff Spring, signed a Memorandum of Understanding to share information in support of mission critical communications. Mr. Haller said, "We're very happy to have an MOU between NPSTC and the University of Melbourne. There is much information going in both directions that will improve public safety in the United States and worldwide."

Mr. Spring said, on behalf of the University of Melbourne's Centre for Disaster Management and Public Safety (CDMPS), he was very happy to be meeting with NPSTC as well. Sixteen months ago CDMPS launched at the University of Melbourne to introduce students to the concept of mission critical public safety communications. They have reviewed Australia's Triple Zero Operator, Australia's 911 system, and the emergency management plan from the state of Pretoria, among other things.

Federal Partners Update

Department of Homeland Security (DHS), Dan Cotter, Acting Director, First Responders Group (FRG):

Mr. Cotter updated the status of Office for Interoperability and Compatibility (OIC) programs. FRG has created a number of videos to highlight needs and technology solutions for first responders. Program updates included:

The Project 25 Compliance Assessment Program (CAP) is a formal, independent process for ensuring communications equipment declared by the manufacturer to be P25 compliant meets P25 standards. The program provides the public with Summary Test Reports and Suppliers' Declaration of Compliance documentation online at <http://firstresponder.gov/p25>. Migration of all P25 CAP documentation from the Federal Emergency Management Agency (FEMA) LLIS website to the new site is complete.

OIC and the DHS Office of Emergency Communications recently awarded a grant to the Association of Public-Safety Communication Officials (APCO) to support OIC execution of P25 CAP activities and the Computer Assisted Pre-Coordination Resource & Database System. Major activities are to reconstitute the P25 CAP Governing Board (GB) under existing charter, develop new/revised test procedures after GB

reconstitution, and ensure the governance process/new procedures are informed by stakeholders. OIC will soon release Compliance Assessment Bulletins to establish program policies, including transition of accreditation services from National Institute of Technology & Standards (NIST) to the American Association for Laboratory Accreditation, American National Standards Institute (ANSI)-ASQ National Accreditation Board, and International Accreditation New Zealand.

DHS's Science and Technology (S&T) is launching several programs based on stakeholder input to support the Next Generation First Responder (NGFR) with the goal to:

- Maximize personal protective equipment protection, enhance comfort and durability, and apply human factors engineering principles.
- Integrate plug-and-play concepts.
- Provide up-to-the-moment situational awareness to first responders.
- Focus on ruggedized and miniaturized form factors for hardware.
- Accelerate and apply information sharing standards allowing responders to receive, retrieve and display diverse data types.
- Emphasize modular designs, standards, standardization and interoperability for technologies.
- Minimize components cost.
- Develop and deliver an interoperable, standards-based architecture.

OIC is conducting analysis and evaluation of information sharing landscape for CAD to CAD and CAD-to-RMS (Records Management System), working to identify solutions for achieving interoperability through application of data standards. OIC is partnering with APCO and the IJIS Institute to develop and document CAD-to-CAD and/or CAD-to-RMS information sharing exchanges for proof-of-concept field trials, and working with CAD vendors to manufacture products that incorporate data standards for systems interoperability.

The S&T National Conversation is a collaborative vehicle developed to cast a broad net to capture and vet ideas, feedback, and perspectives to inform solutions for keeping the nation safe and resilient. For more information, visit <http://scitech.dhs.gov>.

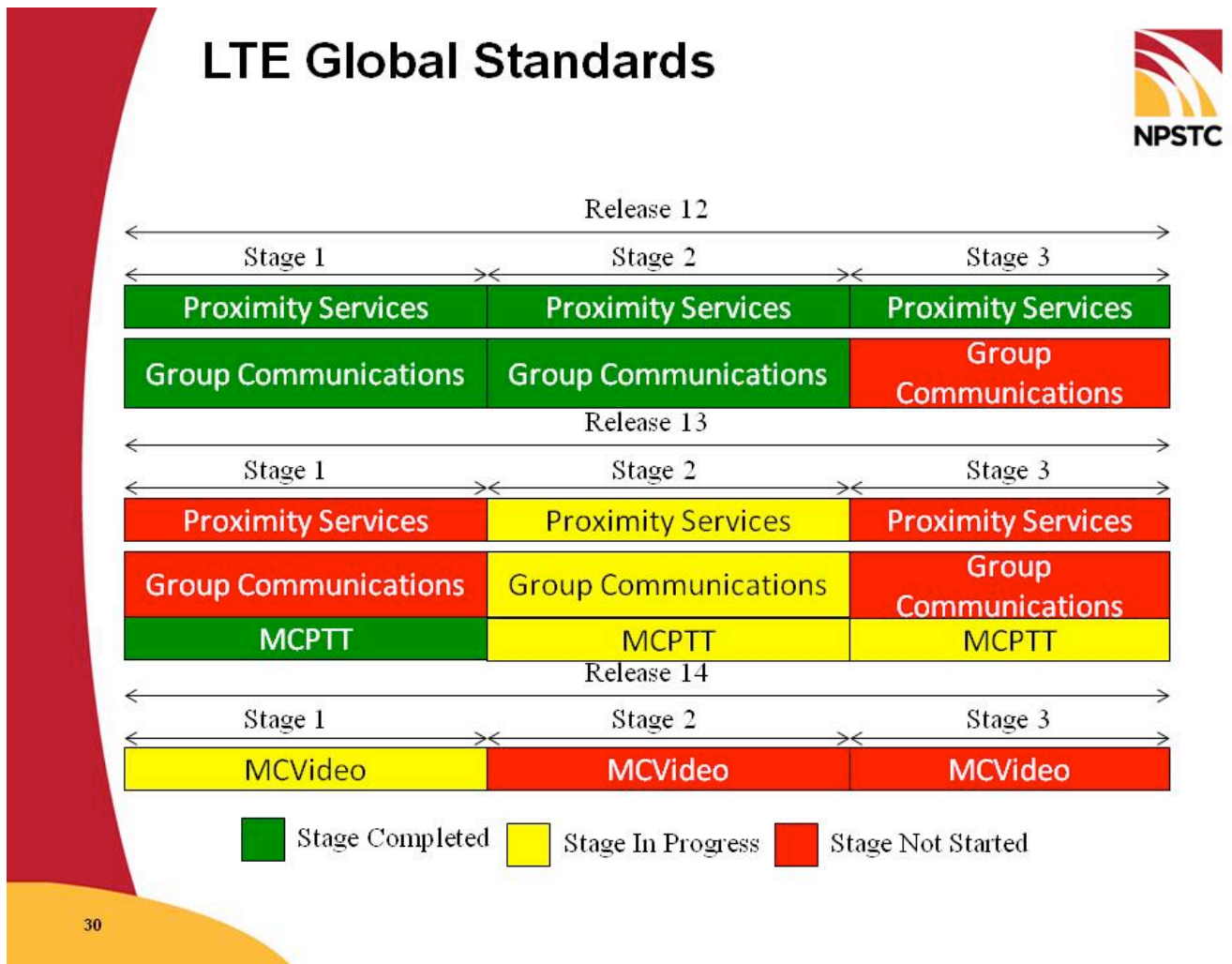
DHS, Chris Essid, Deputy Director, Office of Emergency Communications (OEC): Mr. Essid discussed changes in the SAFECOM structure, beginning his presentation with a video, entitled, "SAFECOM in 100 Seconds." SAFECOM created a task force to direct future activities. Task force members listed all the activities SAFECOM focused on and categorized them into one of four committees.

- Education and Outreach, Chaired by Mark Grubb, products include the Evolution Brochure and SAFECOM Fact Sheet development, SAFECOM 101 Presentation, SAFECOM website upgrades, SAFECOM Tool box development, public safety tools website coordination, best practice /lessons learned webinars, COML deployment, and Statewide Interoperability Coordinator (SWIC) Coordination.
- Funding and Sustainment, Chaired by Steve Proctor SAFECOM, products are Grant Guidance and Public/Private Partnership.
- Governance, Chaired by Chief Doug Aiken, products include Membership, SAFECOM Charter modifications, Statewide Interoperability Governing Body (SIGB) criteria development, National

Emergency Communications Plan (NECP) and Statewide Communications Interoperability Plan (SCIP) coordination, and SAFECOM Strategic Planning.

- Technology Policy, Chaired by Chief Gerry Reardon, products focus on Broadband, LMR, NG 9-1-1, Cyber Security, and Model Ordinances.

Technology and Broadband Discussion, Tom Sorley, Committee Chair; Andrew Thiessen, Vice Chair
LTE Global Standards/3GPP Update, Andrew Thiessen: Mr. Thiessen discussed the concept of 3GPP standards releases and the features and functionality in each level of release. Each release is developed in stages with stage one being the development of requirements and the definition of service itself; stage two, system architecture, and stage three, the “kitchen sink,” protocols and everything else that needs to be addressed.



Work in Release 12 focused on mission critical voice, trying to match what LMR can do today in LTE. Seven different feature sets represented NPSTC’s definition of mission critical voice. 3GPP’s designation of proximity services is the same as what public safety refers to as direct mode communications. The underlying capability for management of group communications was completed in Release 12. Release 12 officially closed. Group communications are applicable across voice and data for Release 13.

Release 13 continues parallel efforts for proximity services, group communications, and mission critical push-to-talk. Release 14 is officially underway as well. Mission critical video will be part of Release 14.

Last year, the Open Mobile Alliance (OMA), Tetra and Critical Communications Evolution (TCCE), European Telecommunications Standards Institute (ETSI), and 3GPP began work on mission critical push-to-talk, assembling in Montreal, Canada, to determine how to coordinate and consolidate these efforts. There was consensus that the work should occur in 3GPP and OMA and ETSI have agreed to share their work. There is another important effort for public safety ongoing in 3GPP, known as IOPS [Isolated Operations for Public Safety]. The Public Safety Communications Research (PSCR) Program is not part of that effort, although a number of governments are participating.

Public Safety Broadband Requirements, Barry Luke, Executive Deputy Director, NPSTC

The Local Control Working Group has paused in its efforts to focus on the Priority and Quality of Service (QoS) Working Group activities. Local Control will become active again on March 24. Both groups are working to update older documents. Public safety has much more in-depth knowledge of how broadband works than it had when the earlier documents were produced. NPSTC hopes to finish this work by June to provide to the Public Safety Advisory Committee (PSAC) for FirstNet's information. The P & QoS Working Group has developed a presentation to facilitate the PSAC's explanation to FirstNet.

Technology and Broadband Committee Topics, Tom Sorley

Mr. Sorley said APCO and the National Emergency Number Association (NENA) are co-chairing work on 9-1-1 and how it relates to FirstNet. NPSTC's Radio Programming Capability Requirements (PCR) Working Group is working on two webinars to promote adoption and understanding of the Programming and Management (PAM) tool and how to use the tool.

Spectrum Management Committee, Dave Buchanan, Chair, and Stu Overby, Vice Chair

LED/High Efficiency Lighting Interference Report, David Buchanan: NPSTC was approached by several individuals who had experienced interference from energy efficient lighting. NPSTC issued a questionnaire to the public safety community through the NPSTC Participant's Listserv. A preliminary review of the results demonstrates a definite problem. The causes can be poorly designed units or a bad ballast. Marijuana warehouses use grow lights that cause interference with public safety. After further study, the Working Group will make recommendations to the Governing Board for follow up.

Chief Aiken said cities are replacing street lighting systems with LED lighting which is also a part of the problem. Paul Gilbert, American Association of State Highway and Transportation Officials (AASHTO), said AASHTO is aware that LED power lines and LED traffic lights cause interference problems. Stu Overby, Vice Chair, Spectrum Management Committee, said most bands affected were in VHF spectrum. In one case a law enforcement officer put LED blue lights on his car which created interference in that car. LED lighting in ambulances has also caused interference. John McIntosh, Association of Fish and Wildlife Agencies (AFWA), assumed the scope was LED, but reported the highway patrol purchased unmarked cars, where the entire radio system was affected. It was traced it to a chipset. John Powell said it is not just LEDs, but CFLs and chipsets. The Federal Communications Commission (FCC's) Office of Engineering and Technology (OET) acknowledged rules covering interference haven't been retouched in 40 years. Harlin McEwen, International Association of Chiefs of Police (IACP) agreed with Mr. Powell

saying his automatic headlight setting caused interference in his car. This may be occurring in a number of cases but first responders aren't aware of the cause. Mr. Sorley suggested issuing best practices or recommendations for troubleshooting this problem. NPSTC may want to contact the cellular industry as they have been facing this problem for years.

700 MHz Deployable Trunked Channels, David Buchanan: Mr. Buchanan reported that NPSTC and the National Regional Planning Council (NRPC) developed a recommendation on how many and which of the 700 MHz reserve channels should be used for deployable trunked systems. This effort was initiated by a recent rulemaking on 700 MHz, which changed the former reserve channels to general use frequencies governed by the Regional Planning Committees. In Regions where there are no incumbent T-band licensees, up to eight of these frequencies can be designated as deployable trunked channels. The group recommended six channels and is making progress on designating talk groups for the calling, guard, and command channels, and COML use on scene.

FCC Notice of Proposed Rulemaking (NPRM) on 800 MHz Interstitial Channels, Dave Buchanan: Mr. Buchanan reported some years ago, the Enterprise Wireless Alliance (EWA) proposed using offset or interstitial channels in the 800 MHz band to gain more spectrum use. He asked David Eierman and Peter Moncure to investigate practical ways to coordinate channels. They are also coordinating with Allen Tilles for business/industrial concerns. Mr. Buchanan himself did a great deal of work on coordinating channels in San Bernardino County with Los Angeles and Orange Counties. In that case he sought a waiver, asking for offset channels, and had to prove it would not cause interference with other systems. He said he would like to develop a proposal for discussion that meets approval with coordinators, users, etc. Mr. Buchanan explained the issues that would have to be resolved to do this. Originally channel separation was based on distance, based on the idea that a service area was 25 miles. Theoretically there is some white space that could be used.

It is important to protect public safety in the coordination of interstitial channels. From a technical frequency coordination standpoint, NPSTC needs a consistent [not identical] framework. The main objectives are to protect public safety, be spectrum efficient, and give both business and public safety to flexibility to coordinate based on their own needs.

The current proposed approach embodies the following. Use simple worst case contours based on assumptions. For spectrum efficient close spacing, use TSB-88 tile based methods. This requires software packages to be certified for terrain data so predictions match. The coordination framework would not be in the FCC rules but for flexibility it would be an agreement between the coordinators. Mr. Haller said the FCC rules in 800 MHz allow the aggregation of up to five channels. Mr. Buchanan hosted a meeting of interested individuals following the Governing Board meeting to discuss technical specifics to be considered.

Summary of NPSTC Filings, Stu Overby: Mr. Overby reviewed NPSTC's filings to the FCC from April 2015 to February 2015. The filings demonstrate the breadth of topics NPSTC has taken on.

Date	Filing	Topic
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2/23/15	Reply to Recon Request (FCC)	P25 CAP
2/20/15	Reply Comments (FCC)	Cellular PFD/Minimizing Interference
2/13/15	NPSTC/NRPC Letter (FCC)	700 MHz Deployable Channels
1/5/2015	Comments (FCC)	Public Safety Frequency Coordination
12/17/2014	Comments (FCC)	Part 22 Rules
10/27/2014	Comments (FirstNet)	FirstNet Public Safety User Definition
10/16/2014	Ex Parte Comments (FCC)	4.9 GHz National Plan Proposal
7/14/2014	Reply Comments (FCC)	Wireless 9-1-1 Location Accuracy
6/30/2014	Comments (FCC)	Part 90 Frequency Coordinators
5/16/2014	Petition for Rule Making (FCC)	Railroad Police Access to PS I/O Channels
5/12/2014	Comments (FCC)	Wireless 9-1-1 Location Accuracy
5/9/2014	Ex Parte Comments (FCC)	4.9 GHz National Plan Proposal
4/28/2014	Ex Parte Comments (FCC)	4.9 GHz National Plan Proposal

Mr. Overby said the date for comments on 800 MHz interstitials has not yet been established because the item has not yet been published in the Federal Register. Spectrum Management is also working on a response to the FirstNet Second Public Notice.

New Topics, Dave Buchanan: Mr. Buchanan proposed the Spectrum Management Committee create a new Interference Protection Working Group and retire the current Narrowbanding Working Group as their work has been completed.

Motion and Vote: Chief McEwen moved to approve the creation of the Interference Protection Working Group. Gary McCarrahar, International Association of Fire Chiefs (IAFC) seconded the motion. The

motion was approved with a nay vote from the American Association of State Highway and Transportation Officials (AASHTO).

Motion and Vote: Paul Szoc, International Municipal Signal Association (IMSA), moved to retire the Narrowbanding Working Group. Paul Leary, Forestry Conservation Communications Association (FCCA), seconded. Approved.

Topical Presentation

Pacific DataVision, Inc., (PDV) Morgan O'Brien, Vice Chairman: Mr. O'Brien briefed the group on a Petition for Rulemaking filed by PDV to re-work the 900 MHz band to create opportunity for a Private Enterprise Broadband (PEBB) Network. He predicted a changed landscape in an IWCE conference 5 years from now that he believes will focus on demonstrating new applications that will develop in broadband. There will be no more opportunities for public safety to acquire the 20 MHz of spectrum achieved over the last 5 years. Reworking the existing spectrum will be necessary. Narrowband, which imposes design restrictions, is a small island in a growing sea of broadband, he said.

Pacific DataVision purchased 900 MHz spectrum from Sprint. Mr. O'Brien called the spectrum at 896-901/935-940, a 5 x 5 pairing of spectrum, a desirable position. Those channels have been assignable since the 1980's. Half of that spectrum was auctioned and became a significant part of the spectrum used in Sprint's IDEN network. In June 2013, Sprint shut down its operations at 900 MHz and sold the non-contiguous spectrum to Pacific DataVision.

Holding 60 percent of this spectrum, PDV along with the Enterprise Wireless Alliance (EWA) filed a Petition for Rulemaking asking the FCC to 'retune' the spectrum to allow the creation of Private Enterprise Broadband Network in the upper 3 MHz of the band. The utilities have the second largest presence in this spectrum, followed by the petroleum industry. If the FCC accepts Pacific DataVision's proposal, that company would be responsible for providing comparable facilities to any incumbent licensees who have to relocate. If they are to introduce broadband channels adjacent to narrowband spectrum, there will have to be very strict emission rules.

Bill Brownlow, AASHTO, thanked Mr. O'Brien for bringing broadband to public safety's attention some years ago as a representative of Cyren Call, which was an initial funder of the Public Safety Spectrum Trust (PSST), the first license holder of the public safety broadband spectrum prior to the creation of the FirstNet Responder Authority (FirstNet).

NPSTC Organizations Update

Utilities Telecom Council (UTC), Brett Kilbourne, Associate Representative: Mr. Kilbourne said the utilities have increasing capacity and coverage requirements. The utilities have always felt aligned with public safety. The FirstNet designation of utilities as public safety to access the National Public Safety Broadband Network (NPSBN) has been very encouraging. The potential for access would be a wonderful opportunity for the utilities. The utilities are also looking at 4.9 GHz. He thanked NPSTC for working with the utilities in developing the band plan. There are significant utility deployments in 3.65 MHz that are now threatened by new rules regarding spectrum sharing from the FCC.

Mr. Kilbourne said DHS and APCO have been reaching out to the utilities communities. Another issue affecting the utilities is the cost of transitioning from analog to digital and the removal of copper lines, which are still used by a number of utilities. The costs are going up. The unexpected result of the higher costs is creating support from senior managers and state regulators. The National Association of Regulatory Utility Commissioners (NARUC) has supported UTC, which would not have been true in the past. There are good opportunities for collaboration.

Alliance for Telecommunications Industry Solutions (ATIS), Frank Korinek, Director, Strategy and Business Development, Motorola Solutions, Inc.: Mr. Korinek updated his Governing Board presentation from November 2014 on ATIS projects. ATIS is building upon the current SMS to 9-1-1 standard, completing the text-based MMS to 9-1-1 standard in the second quarter of 2015. The ATIS Emergency Location Task Force is developing needed solutions in support of the November 2014 AT&T, Verizon Wireless, T-Mobile, Sprint, APCO, and NENA voluntary agreement and roadmap. ATIS efforts support current and anticipated FCC initiatives. Highlights include methodologies and six testing environments (supporting live 9-1-1 call data) and a new work item developing methodologies in support of vertical location (z-axis).

ATIS developed CMAS (wireless emergency alert (WEA) solutions per the Warning, Alert and Response Network (WARN) Act and FCC. Current efforts include feasibility studies addressing the display of additional content (map, image, hazard symbols); geo-targeting (handset vs. county targeting); support for Spanish language; and Canadian CMAS and mobile device behavior.

ATIS efforts in support of the FCC Technological Advisory Council (TAC) recommendations include ATIS, working with GSMA NA, is developing standards, methods, and procedures to obtain device identifiers from smartphones including those that are locked or rendered inoperable.

ATIS is evaluating technology impacts of 5G (implementation anticipated ~2020 or later) on the North American market, which will potentially include public safety impacts.

Ms. Ward said NPSTC would like to be more involved in ATIS projects such as Vice Chair, Paul Patrick's participation in the ATIS Public Safety Related Applications Task Force (PSRATF).

FirstNet NPSBN Development, Kevin McGinnis, FirstNet Public Safety Board Member: Chief McGinnis provided an overview of recent FirstNet activities. The state consultation team collaborates with the acquisition team. FirstNet just completed their 17th consultation, this one with Nebraska. Staff has been consulting with SPOCs in all states and territories. The initial consultation meeting is to understand how public safety uses communications in their state, types, resources, etc. Draft RFPs will be discussed next week. Program objectives encourage submission of creative, innovative solutions and partners. Chief McGinnis said he has seen tremendous progress in a year. FirstNet is in the process of finalizing recommended data collection activities that will be useful for each state and territory to help inform the acquisition process and the development of state plans to ensure the network is designed to meet public safety's needs.

Staff spent February reviewing the draft data collection activities and elements with the SPOCs and have finalized the activities, which will be formally rolled out to the states and territories next week via a webinar. Also during the rollout webinar, National Telecommunications and Information Administration (NTIA) will review the process to release the SLIGP Phase 2 funding. Staff is entering the data from the collection phase with the states, users and operations, capacity, coverage objectives, resources.

FirstNet initiated its second public notice and comment process on March 13, 2015, seeking comments on certain legislative interpretations under the Act relating to key topics including:

- Technical Requirements for Equipment Use on the Network
- Network Policies
- State Plan Implementation and Decision Process
- Customer, Operational, and Funding Considerations Regarding State Assumption of Responsibility to Build and Operate a RAN

The comment deadline is April 13, 2015. The public, including any individual or organization, is invited to submit written comments to the notice either electronically through www.regulations.gov or by mail to the address listed in the notice. Joe Hanna, Directions, asked about the abbreviated timing from the release of the notice and the date the comments are due back, saying it will be difficult to make teaming ?? agreements until the RFP is released. Chief McGinnis said he would share that with the Board.

Public Safety Advisory Committee (PSAC), Harlin McEwen, Chairman: Chief McEwen discussed his role on the PSAC. FirstNet has assigned three tasks the PSAC.

- Priority and Preemption Task Team (Kicked off 2/26): FirstNet is seeking advice from the PSAC regarding an initial framework for implementing access prioritization, user preemption, and prioritized application use in the NPSBN.
- Public Safety Grade Task Team (Kicked off 2/27): FirstNet is seeking advice from the PSAC regarding an initial methodology and framework for prioritizing and implementing NPSTC's public safety grade recommendations in the NPSBN.
- User Equipment Tasking (Kicked off 3/4): FirstNet is seeking advice from the PSAC on functional objectives for and ergonomic considerations of Band 14 broadband user equipment that will meet the operational needs of first responders.

NPSTC has been very helpful in supporting these tasks through the various Broadband Working Groups under the Technology and Broadband Committee. The next meeting of the PSAC will be held in San Diego, CA, on June 1, prior to the Public Safety Communications Research (PSCR) meeting. A portion of the PSAC meeting will be open to the public. Mr. Luke said he was pleased to hear that these efforts are being initiated simultaneously as they are all coordinated activities.

Federal Communications Commission (FCC), Roberto Mussenden, Attorney-Advisor, Policy and Licensing Division, Public Safety Homeland Security Bureau (PSHSB): Mr. Mussenden reported on recent activities at the PSHSB. The Report and Order on location accuracy, adopted in January, incorporates many elements of the APCO/NENA plan. The Bureau is now moving into implementation,

which will include technology testbeds, using 911 calls. The PSAPs will have to develop up-to-date maps that are integrated with networks, including dispatch, FirstNet, and emergency alerting systems.

All carriers are to provide text to 9-1-1 service. The PSAPs are to determine when to implement. The transition has been working well and the expected overload has not occurred. The PSAP 911 registry is maintained by the FCC.

Regarding alerting, the IP transition is bringing all platforms into convergence, with EAS alerts combined with geographically targeted alerts.

The FCC provides consultation support to FirstNet. Staff from various Bureaus are working with FirstNet to facilitate Special Temporary Authority (STAs), equipment manufacturers, tower protocols, and spectrum management.

LMR will still be part of the public safety community for a long time. Because it is a finite resource, we must make sure it is used efficiently. The FCC issued the 700 MHz narrowbanding order, released the 800 MHz interstitial NPRM, and, with the help of NPSTC is trying to clarify the rules in 4.9 GHz, which may encourage vendors to build equipment to meet that need. This band can be used much more effectively. The FCC will issue an NRPM in 4.9 GHz.

FirstNet's Second Public Notice doesn't deal with LMR but whatever rules are issued as a result, there is an opportunity for public safety to guide FirstNet through comments as well as commenting to the FCC. Representatives of 9-1-1 need to be a part of the state consultations to help shape the process.

Yesterday, the FCC's Communications Security, Reliability & Interoperability Council (CSRIC) issued a report on cybersecurity. Mr. Mussenden said it was a very long but important report. As IP becomes more important and serves as link between various communication platforms, public safety needs to understand security issues.

Regarding T-Band, Mr. Mussenden said, "We are all looking at the same Rubik's Cube." The FCC is trying to determine how to address it.

In other news, Mr. Mussenden reported the FCC now accepts Petitions for Rulemaking electronically. The Enforcement Bureau has consolidated and closing some of its field offices. Ms. Ward said closing the field offices is a concern. NPSTC will reach out to the FCC to express its concerns.

Interoperability Discussion, John Lenihan, Chair, and Don Root, Vice Chair

EMS Working Group Working Group, Paul Patrick, Chair: Mr. Patrick reported on the recent activities of the EMS Working Group. During recent meetings, the group has heard presentations from different subject matter experts, which has generated good discussions. The Working Group is completing a telemedicine questionnaire which is being distributed to EMS professionals.

Common Channel Naming Working Group, Don Root, Chair: Mr. Root provided an update on the Common Channel Naming Working Group. With FCC release of the Report and Order on 700 MHz, the

Working Group was reconvened to revise *APCO/NPSTC ANS 1.104.1-2010: Standard Channel Nomenclature for Public Safety Interoperability Channels*. The revision will include these changes.

- Integrate 700 MHz Air-Ground channels.
- Reformat appendix tables to follow NIMS ICS-217A format. Permits export to IAPs, NPSTC PAM tool.
- Add 155.1600 as a common-use channel for Search and Rescue (SAR).
- Correct a number of typos in the tables.

The updated document will be submitted to the Governing Board for approval in the next 2-3 weeks and the Working Group will submit the updated document to APCO in April for the ANSI vetting process. Future Activities include common naming of 700 MHz transportable system talk groups and common naming best practice for 700 MHz low power channels.

Cross Border Working Group, Barry Luke: Mr. Luke thanked the Governing Board for approving the recently published *Cross Border Communications Report: Barriers, Opportunities, and Solutions for Border Area Emergency Responders*, a comprehensive study of cross border public safety communications at the local first responder level. The report jointly produced by NPSTC and the Canadian Interoperability Technology Interest Group (CITIG) will be presented at the upcoming Canada/U.S. (CANUS) meeting.

Radio Interoperability Best Practices Working Group, John Lenihan, reporting for Mark Schroeder: The Working Group has identified 12 best practices which are a work in progress. Two are complete and will be presented to the Board at the May meeting. As the group reviews best practices, new information arises from lessons learned in new situations. Chief Lenihan invited interested public safety to participate in contributing to the remaining 10 best practices.

Topical Presentations

Project 25 Technology Interest Group (PTIG), Stephen Nichols, Director: Mr. Nichols reported on recent activities of the PTIG, which supports Project 25 technology, nurturing Project 25's adoption, growth, and expansion. P25 has a new website which he urged practitioners to visit. P25 is in 83 countries with continuing growth. PTIG provides an information forum for users and manufacturers, manages education and training on Project 25, creates and distributes Project 25 information, supports the TIA standards process, offers users access to the standards process without the rigor of TIA membership, and maintains a "neutral ground" among the competing manufacturers and provider.

PTIG has recently updated the Capability Guide, which offers good information to create wish list for RFQs, to audit of an existing system to add capability, or if an agency is adding another jurisdiction, it provides a means to determine what equipment both agencies have and where they meet.

New Documents available at www.Project25.org

- P25 Frequently Asked Questions: *Written to officer, firefighter (non technologist) level*
- P25 Updated Capability Guide: *Added Infrastructure interfaces and link to Statement of Requirements*

- P25 Standards Update Summary: *Summary of the latest P25 Standards Meetings with user benefits defined*
- P25 Steering Committee Approved List of Standards: *Updated from the most recent P25 Standards meeting*
- P25 Feature Translator: *Link to NPSTC PAM tool*

The CAPRAD website was hosted temporarily on PTIG but it is up again on DHS's website at <http://firstresponder.gov/p25>. A new P25 list of systems for the U.S. and its territories includes the name of the system and frequency band, and is organized by state. This resource will allow Information sharing between P25 systems in different regions. It can be used by visiting agencies to identify the Local/Statewide P25 systems available to facilitate interoperable communications for mutual aid.

Current Activities:

- Air Interfaces: A standard for Dynamic Regrouping for the Air Interface was approved for publication. The dynamic regrouping function was formerly manufacturer specific. The new P25 Dynamic Regrouping Standard creates a common specification for multi-vendor interoperability.
- A revision of the Trunking Procedures Standard was approved for publication. The revision corrects several errata that have been noted since the last publication.
- A revision of the TDMA Transceiver Measurement Methods, TDMA Transceiver Performance Recommendations Standards was approved for publication. A new test and associated performance specs were added.
- Security: A revision of the OTAR standard (multi-year effort) was approved for publication. The Standard was clarified to prevent interoperability issues as an increasing number of vendors implement P25 OTAR.
- A revision of the Key Fill Interface for mobiles and portables was approved for publication. USB and RS-232 interfaces were included to expand applications and devices available.
- An Addendum to the Security Services Overview standard was approved for publication. The addendum adds an Informative overview of the key management service as it applies to voice, data, and authentication.
- Data: A revision of the IP Data Bearer Services Specification was approved for publication. The Standard was clarified to prevent interoperability issues as an increasing number of vendors implement P25 Data applications.
- A revision of the Tier 1 Location Standard was approved for publication. The Standard was clarified to prevent interoperability issues as an increasing number of vendors implement P25 Location Standard Data applications.
- Wireline Interfaces: A revision of the ISSI Interoperability Tests to include TDMA was approved for publication. The revisions adds a standard testing method of new Phase 2 TDMA systems interconnected with FDMA systems using the P25 ISSI multi-system interface.
- Compliance Assessment Bulletins: TIA subject matter experts review published TIA test documents and recommend tests appropriate for use in P25 Compliance Assessment. The list of tests is documented in Recommended Compliance Assessment Test (RCAT) Telecommunications System Bulletins. The Steering Committee may then forward these to the DHS Compliance Assessment Program Governing Board for consideration when creating Compliance Assessment Bulletins (Testing CABs)

- A revision to multiple RCATs were approved for publication: RCAT for Trunked Interoperability (FDMA and TDMA tests), RCAT for TDMA Voice Channel Air Interface (Conformance and Performance tests), RCAT for Conventional Mode Fixed Station Performance, RCAT for Conventional Mode Subscriber Performance, RCAT for Trunked Mode Subscriber Performance, RCAT for Trunked Mode Fixed Station Performance. These revision efforts primarily update all references to TIA published test documents. The FDMA Trunking Interoperability testing RCAT was also revised to include Trunking Conformance test recommendations.

Ms. Ward suggested NPSTC could link to PTIG website and create a P25 page. PTIG would welcome the opportunity to reach out to public safety.

NPSTC Organizations Update

Telecommunications Industry Association (TIA), Chris Lougee, Affiliate Representative: Mr. Lougee discussed TIA. This trade association is accredited by ANSI and develops voluntary, consensus-based industry standards. TIA's focus is the global information and communications technology (ICT) industry and it provides standards development, policy initiatives, business opportunities, market intelligence, and networking events.

TIA marries work in standards and policy. Under the Wireless Communications Division (WCD), Mr. Lougee is in charge of the Private Radio Section (PRS), which deals with policy, regulatory, and advocacy issues to keep the standards development side up to date on the regulatory situations.

TIA addresses the needs of the public safety communications community through work on technology studies, reviews of operational requirements (SOR), technology tests, and draft technical concept papers. There are 12 engineering committees; TR-8 "Mobile and Personal Private Radio Standards" is involved in the formulation of the TIA-102 Series standards for Project 25. The creation of standards begins in the User Needs Committee. TIA has also identified a problem and initiated the creation of a standard.

The APCO P25 Interface Committee (APIC) provides technical assistance to P25 and TIA, formulating and preparing documentation for the Project 25 Standard and developing recommendations to clarify or improve standards requirements. APIC is a volunteer organization that is open to any organization, or individual, with an interest in developing P25 standards. It is not a standards formulating body.

TETRA and Critical Communications Associations (TCCA), Phil Kidner, Affiliate Representative: Mr. Kidner said the creation of the 3GPP SA6 working group has been an important achievement for public safety. The first work item is mission critical PTT, driven by the United Kingdom's desire to move forward on this in the near future.

TCCA is doing a gap analysis to identify the gaps, which is not easy between the different technological architectures. Targets for 2015 include the following:

- Consolidate mission critical data requirements for LTE Release 14.
- Create a guideline for spectrum licence terms requirements for critical communications over commercial networks.

- Analyze LTE security capabilities to further extent from the critical communications perspective.
- Conduct a study for identifying legal restrictions preventing the optimal field operations benefiting from broad band critical communications.
- Conduct a study on factors impacting hybrid i.e. combination of dedicated and commercial LTE networks business case.
- Perform gap analysis on existing LTE systems and devices interoperability process.
- Develop mechanisms for TETRA & LTE migration as well as parallel use.
- Identify and include railway sector critical communication needs.
- Create process for formulation of common view of all CCBG members for 3GPP.
- Create process for feeding proper level feedback of 3GPP discussions to the membership.
- Create process to enable various governments to provide support statements to 3GPP inputs
- Nurture informal community for sharing views.

Mr. Luke said the sharing of documents enhances the pace of the work, calling SA6 a great collaboration. Chief McEwen complimented Mr. Kidner on the synergy of the process of developing public safety broadband requirements.

Open Mobile Alliance (OMA), Frank Korinek, Director, Strategy and Business Development, Motorola Solutions, Inc.: Mr. Korinek reported on OMA, which develops specifications for the application layer called service enablers. Enablers provide a standardized approach to tasks such as data gathering and transporting information from a network to a device and/or server. OMA enablers are network agnostic, meaning they are designed to be deployable over any type of network layer.

Since the November meeting, OMA completed Push-to-Communicate-for-Public-Safety (PCPS v1.0) Specification in February 2015 which includes requirements, architecture, interfaces, and protocol standards. 3GPP requested OMA to release copyrights to PCPS v1.0 and the OMA Board agreed to release the copyrights to 3GPP.

The OMA-3GPP legal agreement is in the process of ratification among the 3GPP Organizational Partners. Upon ratification, 3GPP will be able to bring PCPS specifications into 3GPP specifications and modify them as needed. 3GPP Release 13 Mission Critical Push to Talk (MCPTT) will be first 3GPP standard to include PCPS specifications. 3GPP Release 14 Mission Critical Data and Mission Critical Video standards may also include PCPS specifications.

Public safety communities may decide to enhance and/or incorporate other OMA standards into their broadband evolution and deployment decisions, plans, roadmaps, etc. Possible OMA candidates for inclusion in public safety broadband deployments include: OMA Device Management, OMA Location, OMA Presence, and OMA Restful APIs.

Ms. Ward said NPSTC has been discussing quarterly calls and more interaction with OMA. OMA builds the “plumbing” that allows many different things to be built. Billions of devices use their platform. Mr. Korinek said OMA would like to coordinate with NPSTC.

FCC PSAP Architecture Task Force, Bob Brown, NPSTC Representative: Mr. Brown reported the Task Force has been directed to study and report findings and recommendations on structure and architecture to determine whether additional consolidation of PSAP infrastructure and architecture improvements would promote greater efficiency of operations, safety of life, and cost containment, while retaining needed integration with local first responder dispatch and support. Mr. Brown has volunteered to work on the Optimal Cybersecurity and NG911 Architecture sub-committees. Mr. Haller thanked Mr. Brown for taking on this task on behalf of NPSTC.

UL Standards Technical Panel (STP), Chris Taylor, NPSTC Representative: Mr. Haller introduced Mr. Taylor who has agreed to be NPSTC's representative on the ULS STP.

Other Topics, Tom Sorley

Mr. Sorley asked NPSTC's Executive Director to request APCO initiate the ANSI process for the Public Safety Grade report.

Motion and Vote: Chief Leary moved that NPSTC's Executive Director ask APCO to move the Public Safety Grade report into the ANSI process; Chief McEwen seconded. Approved.

Social Media Update, Barry Luke: Mr. Luke reported NPSTC has been discussing the development of a YouTube channel, which is already created but not live. It will aggregate content of NPSTC members and DHS's First Responder Group. Twitter has been effective for NPSTC. Since Monday at IWCE, 66,000 people have received a message with NPSTC mentioned. NPSTC's website has some new options and a new look.

Mr. Luke thanked NPSTC volunteers for all the time they volunteer, reporting that last year NPSTC supported 581 conference calls, with 3,942 callers, taking more than 3,000 hours of public safety subject matter experts' time.

The top two pages accessed on NPSTC's website: the Broadband directory and the COMT page. The website averages 185,000 hits per month. Interestingly the top three countries to visit the site are the U.S., Canada, and South Korea.

Future Meetings

- Wednesday, May 6 and Thursday, May 7, 2015, Washington, DC, Office of the Chief Technology Officer (OCTO) Building
- Wednesday, September 9 and Thursday, September 10, 2015, Norman, OK. Ms. Ward reserved these dates, but there may be a potential conflict with SAFECOM.

John Wright announced APCO will hold a meeting on May 4 and 5 in Washington, D.C. in conjunction with APCO's Leadership Awards dinner. National Telecommunicators Week is April 13-19.

Adjourned for Executive Session

Chief Leary moved to adjourn the meeting; Mr. Wright seconded the motion. Mr. Haller thanked meeting attendees for their participation and adjourned the open meeting at 1:12 pm PST.