

**National Public Safety Telecommunications Council (NPSTC)**  
**Full NPSTC Meeting by Teleconference**  
**July 27, 2017**

**Welcome and Opening, Ralph Haller, NPSTC Chair.** Mr. Haller called the meeting to order at 1:05 p.m. EDT. Participants on the phone were asked to send a record of their attendance to [attend@npstc.org](mailto:attend@npstc.org). He announced Anton Damm will serve as the representative for the Forestry Conservation Communications Association (FCCA), and Lloyd Mitchell as the National Association of State Foresters (NASF) representative.

**Federal Partners Update: Department of Homeland Security (DHS)**  
**Department of Homeland Security (DHS), Office for Interoperability and Compatibility (OIC), John Merrill, Director.** Sally O'Brien, reporting for Mr. Merrill, reported on recent activities of OIC, noting the successful 2017 First Responder Electronic Jamming Exercise, held in Idaho last week with 260 federal, state, local, and commercial participants. Details of the exercise will be presented at the NPSTC September 6 meeting. There have been significant changes to the P25 CAP [Compliance Assessment Program] including addressing non-standard encryption; addition of new requirements for TDMA, ISSI, and CSSI; and changes which have been made to the ways vendors meet the encryption requirement. See the [P25 CAP](#) website for more information. On August 16, OIC will host an open meeting at APCO in Denver, CO. OIC will present; one panel will focus on the jamming event and the initial results, another on improving spectrum resiliency, and one on the Next Generation First Responder Program.

**Dusty Rhoads, Chief of the Public Safety and National Security Emergency Preparedness Communications Governance Branch, Office of Emergency Communications (OEC).** Mr. Rhoads reported on recent activities at OEC. The Communications Unit Working Group at OEC has agreed on a new federated governance model to identify developing solutions for improved communications. The group evaluated options for a new and expanded ICS structure that would better reflect Communications Unit Leader (COML) responsibilities. The COMU mission statement may include strategies to transition from an LMR platform to support of integrated multi platforms for coordinated response.

The SAFECOM nationwide survey is making its way through the Paperwork Reduction Act and OEC is working with SAFECOM and NCSWIC [National Council of Statewide Interoperability Coordinators] representatives to identify stakeholders to participate in the survey. Learn more at [www.SHARE.DHS.gov/sms](http://www.SHARE.DHS.gov/sms). The 2019 National Communications Plan will expand the 2014 version with improved granularity. The July FY 2017 Grant Guidance was released and, consistent with FY16, grantees are required to comply with the SAFECOM guidance, technical standards, and grant requirements.

OEC continues to build relationships with tribal entities to improve emergency communications. Cross border efforts include June meetings in Buffalo, NY, which assembled federal, state, tribal, and local

entities from both sides of the northern border. OEC will also support CAUSE V focused on mutual aid using emerging technologies. The Southwest Border Communications Working Group met on May 23-24, 2017, in Sacramento, CA. The next Southwest Border meeting will be in Waco, TX, on September 12-13. OEC will meet with the NCSWIC leadership in Chicago next week and at FLETC in Brunswick, GA.

**Technology and Broadband Committee, Kim Coleman Madsen, Chair; Andy Thiessen, Vice Chair, and Michael Britt, Vice Chair**

Ms. Coleman Madsen thanked the NPSTC leadership for offering her the opportunity to lead this group.

**Public Safety Communications Research (PSCR) – Dereck Orr, Acting NIST CTL Lab Director, PSCR Division Chief.** Mr. Orr reported news on the \$36 million in grants offered for mission critical voice, analytics, resiliency, and underlying research tools. These grants last from 2 to 3 years. PSCR hosted a June meeting that assembled all grantees in San Antonio, TX, with a good turnout. Forty percent of attendees were new. In July, PSCR hosted a deployables roundtable meeting and the final roadmap summit. PSCR will assemble a fall meeting on next generation deployables.

PSCR is already planning for a June 2018 meeting in San Diego, to be held June 5-8. The meeting will be at the convention center, and PSCR is now looking for government rates for lodging. There will be simultaneous tracks with significant time for grantees to present their work in breakout sessions. PSCR will offer several live prize challenges featuring a substantial sum of award money. Attendees will be able to interact with the winners of those challenges and learn more about what they have done and plan to do.

PSCR is also about to launch the design of a multi-year location-based services grant and a grant program focused on virtual reality, where PSCR will ask grantees to create prototypes of how the VR would work.

Paul Fitzgerald, National Sheriffs Association (NSA), asked how to participate in the VR challenge. For information on that grant program and other PSCR updates and news, visit [www.PSCR.gov](http://www.PSCR.gov) and sign up for newsletter and events.

**3rd Generation Partnership Project (3GPP) Standards, Andy Thiessen.** Mr. Thiessen reported on the various releases ongoing in 3GPP. Release 8 was the first to define LTE. Release 14 was completed in June of this year. Work is in progress now on Release 15. The main focus is the first phase of 5G standards, with phase 2 planned in Release 16. Release 15 and likely 16 will contain extensions to the LTE model as well. Within that effort, the first iterations of Mission Critical Push to Talk, Mission Critical video, and Mission Critical data have been completed. The underlying support mechanisms for direct mode are in place which means manufacturers will be able to create actual devices.

In Release 15, within 5G, 3GPP is looking at enhancements to communications technology that may appear with 5G, such as more dynamic policy control within the standard that would enable a more standards-based approach that would allow expansion for markets beyond public safety. The LMR LTE interoperability work item was approved. 3GPP standardization will define what features and

capabilities in Mission Critical Push to Talk are exposed for interconnection to LMR. 3GPP will create an interface for LTE/5G similar to the ISSI for P25 that will allow different systems to communicate. Work will be needed on the LMR side of the interconnection to allow this to work. The Telecommunications Industry Association (TIA) plans to address this in TR 8.8 from the P25 perspective.

This year the expansion of SA6 work was proposed to allow more visibility to commercial operators and may result in the commercialization of some public safety services.

**Public Safety Internet of Things (IoT) Working Group, Barry Fraser, Chair.** Mr. Fraser said the Working Group is continuing to examine the current state of IoT with presentations planned through the end of 2017. The Working Group will examine government and industry discussions on IoT at the national and local level, and at the public safety level, and how commercial operators are implementing IoT networks. In January 2018, the Working Group will begin an analysis of the impacts to public safety and to develop reports, possibly creating best practices, technical requirements, and recommendations. The group is also monitoring FirstNet's rollout of options as well as those of the wireless carriers.

Mr. Thiessen said he has been asked to work on a World IoT Forum to be held in Singapore. The forum will have a public safety track. Mr. Thiessen said he will coordinate with Mr. Fraser to determine what the Working Group would like to learn from that forum.

**UAS and Robotics Working Group, Michael Britt, Chair.** Dr. Britt reported the Working Group completed its report on *Guidelines for Creating a UAS Program*, which was approved by the Governing Board on March 31, 2017. A report on the *UAS Aerial Communications Platform* is in development that examines the current public safety use of aerial platforms as well as commercial operator deployments. The Working Group heard a presentation from AT&T's UAS Program Director on their "Flying Cow" (Cell on Wings).

Dr. Britt introduced Charles Werner, National Public Safety Council on UAS. Mr. Werner spoke on this relatively new group created to help advance the public safety use of UAS. This is a community of interested participants. It is not a 501 c.3. Its charter is based on NPSTC's with a similar governing board that operates by consensus. He recently met with the AUVSI, the largest unmanned systems organization in the world, which confirmed they will partner with the National Public Safety Council on UAS. The Council will be the opportunity to link with industry and to ensure public safety groups have input into standards.

Dr. Britt said in March the Governing Board decided to monitor the National Public Safety Council on UAS. Marilyn Ward, Executive Director, asked if the Board would prefer to appoint a NPSTC representative or continue to monitor the Council in a liaison status. Mr. Haller suggested the Board discuss the issue at the face-to-face meeting in September. There was agreement with that suggestion.

**Broadband Emerging Technology Working Group, Kim Coleman Madsen, Chair.** Ms. Coleman Madsen reported on the many presentations on emerging broadband technologies of interest to public safety. In March, Claudio Lucente presented on the completed work of the Broadband Deployable Systems Working Group; in April, Tom Sorley and Niki Papazoglakis, Harris County, TX, spoke on the use of LTE

Broadband at the Super Bowl; and, in May, Laurie Flaherty reported on the details of the NG9-1-1 Program Update and an anticipated grant program. In June, Joe Fournier presented on the Canadian PSBN Program. Canada will be using the same spectrum as FirstNet. In July, there was a presentation from AT&T's Garret Doyle on the FirstNet.com public access portal. Joe Martinet and Mark Golaszewski will discuss specifics of the FirstNet Applications ecosystem in August, and the Working Group has tentatively scheduled a presentation on Low Earth Orbiting Satellites for September.

**LMR LTE Integration and Interoperability Working Group, Chris Kindelspire, Chair.** Ms. Coleman Madsen, reporting for Mr. Kindelspire, said there are three focus areas for this Working Group: Validate existing *2012 NPSTC Mission Critical Voice Requirements*; examine additional features and capabilities needed for LMR LTE interoperability; and monitor the 3GPP standards process regarding LMR LTE Interworking. A matrix has been completed listing all public safety technical requirements. These include requirements for devices, consoles, and general network features. The Working Group has achieved consensus on which requirements are mandatory, the "SHALL" vs. the optional "SHOULD."

A draft report has been circulated to the Working Group for feedback and edits, with completion expected in the month of August. The report will be presented to the Governing Board at the September meeting.

The Working Group is monitoring the roll out of FirstNet and announcements on LMR LTE integration services. FirstNet has indicated that they want to ensure a standards based open environment, allowing public safety to select among multiple vendors. There is no 3GPP standard today for LMR LTE integration, so non standards approaches will likely be used. Motorola is AT&T's partner and will be offering these services. Public safety needs to monitor this situation to ensure there is a robust ecosystem for applications and services. Interoperability between Push to Talk voice applications is important.

**Radio Programming Compatibility Requirements (Radio PCR) Working Group, Dan Robinson, Chair** Mr. Robinson said the Working Group is conducting a final review of PAM Tool Version 6, which is fully compliant with the current version of the National Interoperability Field Operations Guide (NIFOG). There have been some edits to the table names for better clarity and additional information has been added in the instructions tab. DHS S&T has coordinated a review of PAM Tool Version 6 to verify compliance with appropriate federal requirements in order to post on DHS websites. The Working Group is continuing to examine a state PAM Tool implementation that will include statewide interoperability resources in the spreadsheet. The State of Michigan has volunteered to examine that feasibility. Mr. Robinson said TIA is working with Radio PCR on interchange language to move the tool to the final vision.

**Video Technology Advisory Group (VTAG) Working Group, John Contestabile, Chair.** Ms. Madsen Coleman, reporting for Mr. Contestabile, said the VTAG meets quarterly and continues to provide input to DHS's VQiPS (Video Quality in Public Safety). VQiPS is finalizing a new charter and governance document. This is likely to result in an increase in enrollment in VTAG.

The annual VQiPS meeting will be held in New York City in November. VTAG membership will be invited and be able to participate in various panels. At the last meeting, Barry Luke, Deputy Executive Director, NPSTC, said John Garafolo reported on changes at the national level. Body worn cameras are now being implemented in a variety of setting beyond law enforcement, for example, by school principals. Issues that could be explored include how that information would be shared and could it be linked to a PSAP in a live situation. There was also an industry presentation on emerging video and video analytics technology.

### **FirstNet NPSBN Development**

**FirstNet, Kevin McGinnis, FirstNet Public Safety Board Member.** Mr. McGinnis reported that recent months have been exciting times for the FirstNet Board. The naming of AT&T as the partner has sped up the process. The plus side is the ability to offer immediate capability for states to opt in through AT&T's offer. On the other side, the speed up of activity has been a bit of a challenge. FirstNet has done an excellent job of keeping in contact with all 56 states and territories. States have had the opportunity to view plans with FirstNet staff and make comments. In September, governors will have the opportunity to opt in or out. Seven states have already opted in: Virginia, West Virginia, Wyoming, Kentucky, New Jersey, Iowa, and Arkansas. The relationship between AT&T and FirstNet has gone well with a few rough edges regarding confusion about states which have an existing ATT connection and how the transition will occur.

FirstNet has created a new consultation process with the tribes, trying to maximize communications. FirstNet enjoyed a very positive report from the Government Accountability Office (GAO). A recent Capitol Hill hearing also went well where there were some definitional questions on hardening and public safety grade. FirstNet recently honored Chief Harlin McEwen for the foundation he laid for FirstNet and the NPSBN. There are several FirstNet websites including FirstNet.gov and FirstNet.com, a portal for states.

**FirstNet Public Safety Advisory Committee (PSAC), Tom Sorley, Committee Chair.** The PSAC accomplishes its work through task teams. Mr. Sorley also reported on the changes to the tribal consultation policy, which was approved by FirstNet, and should be published in the near term. Brian Howard, National Congress of American Indians, chairs that group. The Early Builders Group, chaired by Todd Early, has been busy, walking AT&T through a template of each of the projects completed. The Federal Group which is beginning to schedule work items is chaired by Kraig Moise from Customs and Border Patrol.

The PSAC task team on Preparing for Adoption, chaired by Gary McCarraher, recently created an infographic to depict key differentiators between FirstNet and a public carrier network. The team also created a checklist that addresses procurement, application usage, staffing requirements, and training. Agencies can review these items in preparation for adopting FirstNet.

The PSAC will be doing a series of technical calls with FirstNet and AT&T to review the earlier work of the task teams focused on User Profiles, ICAM, Priority and Preemption, Local Control, Public Safety Grade, and Preparing for Adoption.

Upcoming PSAC meetings include: Tribal Working Group meeting, July 24; PSAC Webinar in the last week of September; PSAC In-Person Meeting, the second week of December (Location TBD); and the PSAC in-person summer meeting in conjunction with the PSCR meeting to be held in San Diego in June 2018.

**Spectrum Management Committee, Don Root, Chair; Charlie Sasser, Vice Chair**

**Committee Issue Update, Don Root.** Mr. Root reviewed several issues under Committee consideration and study. The FCC is promoting sharing and flexibility to provide for more broadband licensed and unlicensed spectrum. Examples include the following:

- Use of dynamic spectrum sharing through a Spectrum Access System (SAS) in 3.5 GHz band.
- Grant of Higher Ground satellite license/waiver in 6 GHz microwave band.
- Potential Wi-Fi sharing under study in the 5.9 GHz DSRC band.
- 4.9 GHz NPRM, rumored to contain questions on sharing.
- New draft Notice of Inquiry (NOI) on August FCC agenda regarding flexibility in spectrum between 3.7 GHz and 24 GHz.

The Committee held two educational sessions to learn how SAS is designed and being tested at 3.5 GHz. NPSTC also obtained a trial membership in the Wireless Innovation Forum. The Forum is the industry focal point for the design of dynamic spectrum sharing at 3.5 GHz. The potential benefit of regular membership in the Forum is still being evaluated. The Committee anticipates providing a follow-up report at the September Governing Board meeting.

**Federal Communications Commission (FCC) Filings, Charlie Sasser.** Mr. Sasser reviewed anticipated filings and completed filings. All filings are available for review on NPSTC’s website.

Date Filed	Topic	Type of Filing
7/31/17	Blue Alerts	Comments (anticipated)
7/31/17	Arizona Pub Svc Co (Utility)	Comments (anticipated)
6/03/17	WRC-19/LMCC 460-470 MHz	Letter, FCC
5/24/17	Broadband Healthcare	Comments, FCC
5/01/17	700 MHz A-G Border	Comments, FCC
4/12/17	V2V Mandate & Standardization	Comments, DOT/NHTSA
3/24/17	Wilson/Cellular Boosters	Comments, FCC
3/06/17	Higher Ground	Comments, FCC

1/27/17	North Dakota on-VLAW 31	Comments, FCC
1/22/17	P25 Encryption Capabilities	Letter, DHS/OIC

**Federal Partners Update: Federal Communications Commission (FCC)**

**Federal Communications Commission (FCC), Roberto Mussenden, Attorney, Advisor, Policy and Licensing Division, Public Safety Homeland Security Bureau (PSHSB).** Mr. Mussenden briefed the Council on recent issues and decisions at the FCC. The current main issue is the opt-out order for FirstNet, which has satisfied the FCC’s statutory obligation to define the mechanics of the opt-out procedure and what the FCC would evaluate, including whether an opt out plan would be interoperable with the FirstNet. The Report and Order was issued June 22. The FCC then issued a Public Notice for input on an Ex Parte filing by FirstNet proposing an interoperability matrix for any opt-out requests. The comment period closed on July 17. The Commission is evaluating comments and planning expeditious movement so FirstNet can issue plans to the states in September.

**Interoperability Committee, John Lenihan, Chair; Jason Matthews, Vice Chair**

Chief Lenihan reported the Committee monitors encryption issues with LMR systems and of non-P25 digital LMR systems use on an ongoing basis. He reported a one-page paper on the value of AES vs ADP encryption in development.

**Common Channel Naming, Don Root, Chair.** Mr. Root reported that the American National Standards Institute (ANSI) standard on Common Channel Naming was approved in January of this year. He said the group is working with the National Guard to provide input on proposed name changes for all National Guard interoperability channels. It is based on a complementary standard analogous with the Common Channel Naming Guide but it would not become a part of the ANSI standard. Mr. Root proposed the use of “NG” prefix and assignment of a frequency band indicator.

Mr. Root asked for Governing Board approval to examine common talkgroup names for nationwide LTE interoperability talkgroups. Mission Critical Push to Talk will include LTE talkgroups that will function in a similar fashion to LMR talkgroups. FirstNet will enable nationwide interoperability allowing first responders to travel across the U.S. and still use their devices and applications. Issues to examine include:

- How many LTE talkgroup names should be reserved for initial and ongoing operations as FirstNet expands?
- How to coordinate flexible geographic coverage areas for these talkgroups?
- Today, the LMR system footprint defines coverage of 8CALL90. A nationwide LTE talkgroup should not “light up” the entire U.S., but rather provide a local/regional coverage footprint.
- What naming sequence should be used for LTE talkgroups?
- Is a band identifier necessary?
- Should talkgroups be allocated only for Calling and Tactical assignments (allowing local flexibility) vs. more detailed assignments for LAW, FIRE, MED, GEN, Travel (found in 700 MHz narrowband channels).

It is recommended that a national framework be established quickly. Local and state agencies will be using FirstNet Push to Talk services immediately (prior to availability of Mission Critical PTT). Those agencies may start assigning LTE talkgroup names to support local, regional, and statewide interoperability. There is a need to establish a naming standard for nationwide talkgroups now to “reserve” those names.

Motion and Vote: John McIntosh, Association of Fish and Wildlife Agencies (AFWA), moved to approve Governing Board assignment of this task to the Common Channel Naming Working Group. Mr. Sasser seconded. Approved.

**Emergency Medical Services Working Group, Paul Patrick, Chair.** Mr. Patrick reported the Joint NPSTC/ NASEMSO Working Group has completed its report on *Broadband Data Implications for Rural EMS*. The report was approved by the Governing Board on May 17, 2017. Mr. Patrick attended the IEEE Connected Health Conference in Philadelphia, where he delivered the keynote speech, focused on NPSTC, EMS, and emerging technologies. A representative of the University of California Berkeley presented to the Working Group on research on telemedicine and virtual display technology. There is a presentation scheduled for a University of Virginia representative to review its PSCR grant award on voice-operated analytics for EMS.

Currently the Working Group is developing an outreach report on Mobile Personal Emergency Response Systems (MPers), devices that include GPS and automatic fall detection. They are the first of many sensor alerting devices that will eventually use NG9-1-1 to send data to the PSAP.

**Radio Interoperability Best Practices Working Group, Mark Schroeder, Chair.** Mr. Schroeder reported the Working Group recently completed *Best Practice #6 on Channel Assignments Based on Infrastructure Coverage*. The Best Practice Master Report and three Best Practice Statements were approved by the Governing Board on January 24, 2017. Two additional Best Practice documents have been approved by the Governing Board: *Best Practice #4 on Interoperability Relationships* and *Best Practice #5 on Infrastructure Management*.

Motion and Vote: Lloyd Mitchell, National Association of State Foresters (NASF), moved the Governing Board approve Best Practice #6. Sheriff Fitzgerald seconded. Approved.

**Cross Border Working Group, Steve Mallory, Chair.** Barry Luke, reporting for Mr. Mallory, said the Working Group has completed the first draft of the *Cross Border 911 Data Sharing Report*, which provides guidance to PSAPs along the U.S. Canadian border on how to access customer account and location data that resides with a commercial carrier in the other country. The report also provides guidance for the management of calls which did not trigger a 9-1-1 call. The draft report has been completed with assistance from public safety agencies and carriers in both the U.S. and Canada participating in this report. The Governing Board approved distribution of the draft report to commercial carriers in the U.S. and Canada to obtain further feedback. The Working Group expects completion of the report by the end of the year.



NPSTC presented at the CANUS Communications Interoperability Working Group meeting in Buffalo, NY, on June 21-22, with DHS-OEC and Public Safety Canada. There were concerns expressed about the lack of access to nationwide interoperability channels near the Canadian border, which are blocked due to use in Canada (above Line A). NPSTC met with the Canadian Interoperability Technology Interest Group (CITIG) and some Canadian EMS providers to help advocate for inclusion of U.S.-approved interoperability channels in ambulance radios. The Working Group also held a webinar with the FCC's Brian Marengo on cross border base station licensing and use of portable and mobile units.

### **NPSTC Liaison Organization Update**

**Public Safety Communications Europe, Manfred Blaha, Organization Representative.** Mr. Blaha reported on a multi-year PSCE broadband project called Broadway: Testing Interoperable EU PPDR Broadband Communication Applications and Technology. Broadway's approach is to carry out the pre-commercial procurement necessary to deliver the first pilot systems for EU Interoperable broadband for Public Protection Disaster Relief (PPDR).

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/sec-04-drs-2017.html>

PSCE asked NPSTC for a letter of support for this effort. Mr. Blaha invited those interested to observe the 2020 presentations. Mr. Haller asked Mr. Blaha to clarify that Phase 0 would develop requirements to which suppliers will build. Mr. Blaha said that was correct. There are more than 3,000 requirements; each of them has a vote on its importance and how often it will be used, and by which services.

Motion and Vote: Marilyn Ward, Executive Director, NPSTC, moved to draft a letter of support for the PSCE project. Sheriff Fitzgerald seconded the motion. Approved.

### **Upcoming Meetings**

- Wednesday, September 6, 2017 | Washington, D.C. at OCTO | In Person
- Tuesday, January 16, 2018 | Teleconference 1:00 p.m. – 3:00 p.m. EST
- Friday, March 9, 2018 | Orlando, FL, at IWCE | In Person

**Adjournment.** Mr. Haller announced Phil Kidner, TETRA Critical Communications Association (TCCA), is retiring. Mr. Haller said NPSTC wished Mr. Kidner well. Mr. Haller thanked the Governing Board for re-electing him as Chair. Motion and Vote: Sheriff Fitzgerald moved to adjourn the meeting. Paul Szoc, International Municipal Signal Association (IMSA), seconded. Mr. Haller adjourned the meeting at 3:06 p.m. EDT.