



## NPSTC Annual Public Safety Communications Update

**Sunday, August 5, 2018**

APCO International Conference and Exposition

Venetian Hotel – Sands Convention Center

The member organizations of the National Public Safety Telecommunications Council are grateful to the Department of Homeland Security's Science and Technology Directorate, Office for Interoperability and Compatibility (OIC) and the National Protection and Programs Directorate, Office of Emergency Communications (OEC) Points of view or opinions expressed are those of the originators and do not necessarily represent the official position or policies of the U.S. Department of Homeland Security.



**Welcome**

**Ralph Haller, *NPSTC Governing Board Chair***



## NPSTC Mission Statement and Objective

- The National Public Safety Telecommunications Council is a federation of public safety organizations whose **mission is to improve public safety communications and interoperability through collaborative leadership.**
- NPSTC pursues the role of **resource and advocate for public safety organizations in the United States on matters relating to public safety telecommunications.**





# NPSTC Governing Board (Voting Member Organizations)

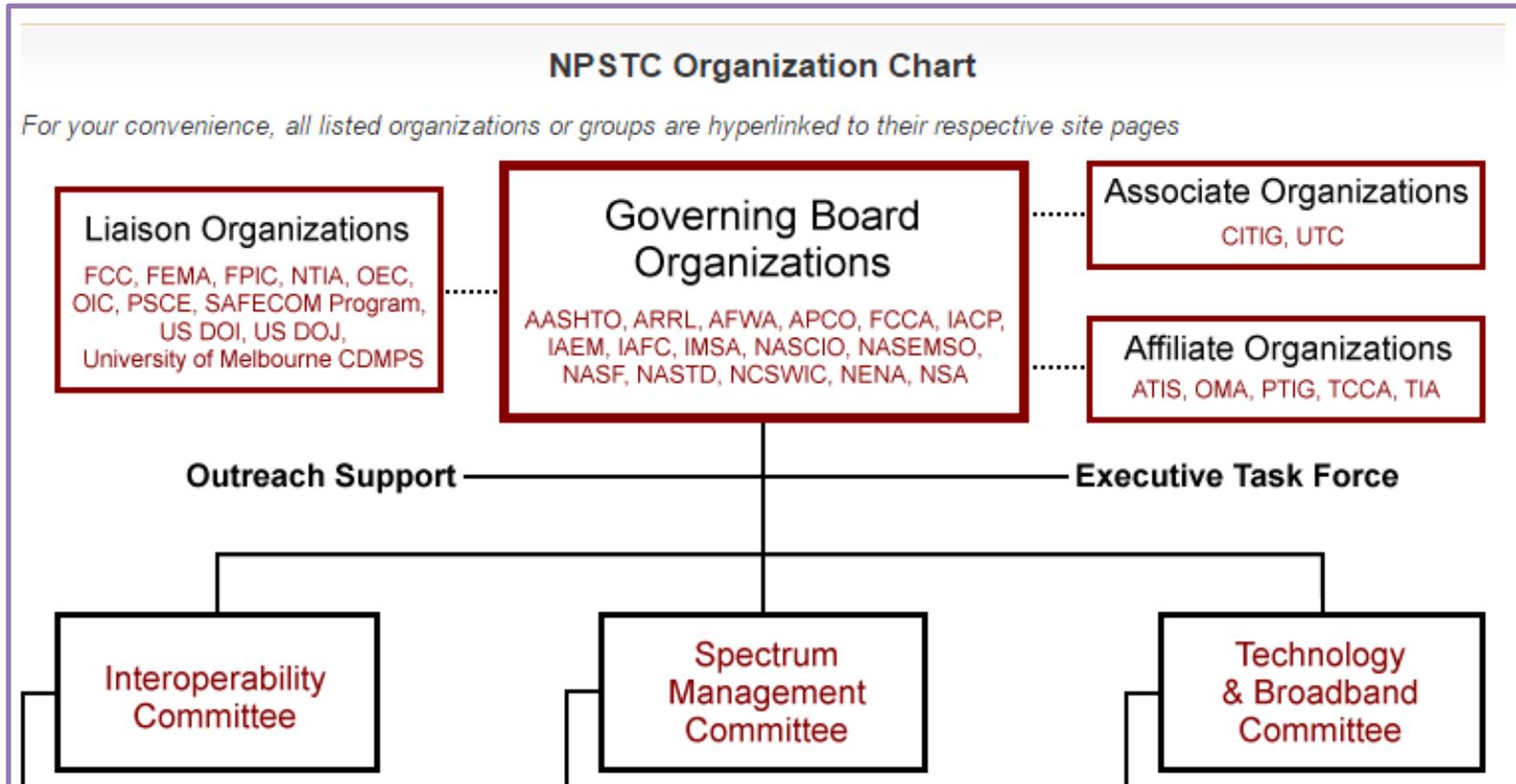


NATIONAL SHERIFFS' ASSOCIATION





# NPSTC Committee Structure





## Today's Panel

- Ralph Haller, NPSTC Chair and Panel Moderator
- Chris Kindelspire, Chair, LMR LTE Integration and Interoperability Working Group Chair
- John Lenihan, Interoperability Committee Chair
- Don Root, Spectrum Management Committee Chair
- Barry Luke, Deputy Executive Director



# Technology and Broadband Committee

## Chris Kindelspire, Chair LMR LTE Integration and Interoperability Working Group

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# LMR LTE Integration and Interoperability Working Group

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- Published a comprehensive report on public safety requirements for LMR LTE interoperability.
- Currently finalizing a report providing policy recommendations for the management of MCPTT User IDs.
  - The identity of first responders is handled differently in MCPTT than in LMR or with current Push to Talk over Cellular systems.
  - There are three data fields in a User Profile that track identity:
    - **MCPTT User ID:** Unique ID associated with a first responder, always available in the device
    - **MCPTT Alias ID:** Free text/unstructured data for use by the agency, is not unique
    - **MCPTT Functional Alias:** Designed for dynamic data flow to show the first responder's current function (e.g. "incident commander", "operational section chief", "evacuation officer", etc.)

# LMR LTE Integration and Interoperability Working Group

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- MCPTT Identity Data should identify a public safety user when:
  - They use PTT to call for help.
  - They press their Emergency Call Button.
  - When a sensor connected to their MCPTT device detects an emergency and calls for help on their behalf.
  - When they are communicating with their home agency.
  - When they are responding mutual aid/automatic aid to assist an adjoining agency.
  - When they are an itinerant user outside their local area.

# Public Safety Internet of Things (IoT) Working Group

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- Finalized a set of technical presentations on IoT and public safety IoT.
- Finalizing review of use cases which illustrate public safety use of IoT systems by law enforcement, fire, EMS and secondary responders; including interaction and data sharing with Smart Buildings.
- Highlighting common themes among the use cases; including the need for data validity, data standardization, cyber security, management and consolidation of data streams.
- This fall, will start work on an education and outreach document that will raise awareness of critical issues for public safety agencies as they consider adoption of IoT solutions.

## UAS and Robotics Working Group

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- Completed a second report, “*Using UAS for Communications Support*” which includes a supplemental document titled “*UAS Communications Spectrum and Technology Considerations*”
  - Approved by the Governing Board on May 30, 2018.
- Heard presentation from Texas A&M on deployment of their UAV and robotic systems to support multiple disaster events around the world.
  - All presentation are on the NPSTC You Tube channel.

## UAS and Robotics Working Group *(cont.)*

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- Shifting focus from UAS to examine public safety use of robotics systems.
  - This focus includes current civilian, commercial, industrial, governmental and military applications.
- Moved to quarterly meetings.
  - Next meeting will be on October 10<sup>th</sup> at 12:00 p.m. ET.

# Broadband Emerging Technologies Working Group

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- Continuing to organize presentations on broadband technologies of interest to public safety:
  - **March:** NPSBN Policy Round Table
  - **April:** West Safety presentation on 911 Location Services and recent trials of Google’s new Emergency Location System.
  - **May:** Orion Labs presentation on advances in voice access systems including the use of “bots” to allow first responders to query data bases.

# Broadband Emerging Technologies Working Group *(cont.)*

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- Continuing to organize presentations on broadband technologies of interest to public safety:
  - **June:** Texas A&M University presentation on research designed to assess cognitive overload to first responders from too much data.
  - **July:** Harris County TX presentation on management of the applications ecosystem.
  - **August:** NPSBN Policy Round Table Discussion.



## Radio PCR Working Group

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- PAM Tool normalizes the disparate data fields used by manufacturers in their programming software.
- Conducting final review of PAM Tool Version 7.
  - Fully compliant with current version of NIFOG.
  - Some edits to table names for better clarity.
  - Additional information in the Instructions Tab.
- TIA is currently working on a data interchange standard to allow vendor software to export and import basic radio programming information.

## Video Technology Advisor Group (VTAG)

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- Meeting quarterly to discuss video technology and analytics.
- Scheduling presentations on emerging capabilities to support public safety agencies.
- Supporting the DHS Science and Technology Directorate with their Video Quality in Public Safety (VQiPS) initiative.
- Reviewing presentations from the VQiPS annual conference for lessons learned.



# Interoperability Committee

**John Lenihan, Chair**

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## Interoperability Committee

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- Monitoring work in the TIA/ATIS Joint Working Group to study how mission critical public safety LTE devices will interoperate with LMR systems.
- Assisting OEC with input on the new National Emergency Communications Plan (NECP).
- Monitoring the work of the DHS S&T P25 Compliance Assessment Program (CAP).

## EMS Working Group

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- Joint Working Group of NPSTC and NASEMSO.
- Received several technical presentations throughout the year on a wide range of EMS communications issues.
- Published a report on Mobile Personal Emergency Response Systems (mPERS) and the impact to EMS from these sensor based alarms.

## EMS Working Group *(cont.)*

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- Finalizing report recommending that EMS agencies evaluate their procedures regarding notification to hospitals during transport of patients with time sensitive medical emergencies (e.g. heart attack, trauma, stroke, sepsis).
  - Examines policy, training, and technology areas for both EMS agencies and hospitals.



## Radio Interoperability Best Practices

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- Studying after-action reports to identify best practices and opportunities for improvement that should be shared with all public safety agencies.
- Recently published a master Radio Interoperability Best Practices report which includes recommendations on 13 individual public safety communications areas in addition to providing information on how agencies can achieve incremental progress.
- Continuing to monitor for additional best practice opportunities.

# Radio Interoperability Best Practices

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## Completed Best Practices

- ▶ BP #1 – Nationwide Interoperability Channel Naming and Usage
- ▶ BP #2 – Interoperability Systems Change Management Practices
- ▶ BP #3 – Training and Proficiency in the Management and Usage of Interoperability Equipment and Systems
- ▶ BP #4 – Interoperability Relationships
- ▶ BP #5 – Infrastructure Management
- ▶ BP #6 – Channel Assignment Based on Infrastructure Coverage
- ▶ BP #7 – Interoperability Resources – After Action Reviews
- ▶ BP #8 – Radio Device Management
- ▶ BP #9 – Deployment for Interoperability Resources
- ▶ BP #10 – Communications Span of Control
- ▶ BP #11 – Managing Encryption for Interoperability Resources
- ▶ BP #12 – Radio Channel Assignment and Use Within High Risk Incident Environments
- ▶ BP #13 – Interoperability Resource Information Storage and Access

# Cross Border Working Group

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- Cross Border 911 Data Sharing Report
  - 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.
    - Also provides guidance for the management of calls which did not trigger a 911 call.
  - Final draft will be submitted to the Governing Board for approval in September.
- Monitoring DHS Cross Border CAUSE Experiments for lessons learned and identification of communications gaps.



## Common Channel Naming

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- Completing report that examines public safety interoperability issues with LTE Mission Critical Push to Talk
- Initial conclusions:
  - Interoperability will be managed at the state, regional and local level.
  - There will not be an LTE equivalent of 8CALL90, VCALL10, etc.
  - Interoperability talkgroups can be automatically pushed to first responder devices based on their location and changes in geography.



## Common Channel Naming *(cont.)*

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- Initial conclusions: *(continued)*
  - Dynamic talkgroups can be created “on the fly” to provide additional interoperability at the scene of large scale incidents.
  - There are several issues that will require regional and statewide collaboration (e.g., who creates the talkgroups, what PSAPs monitor them).



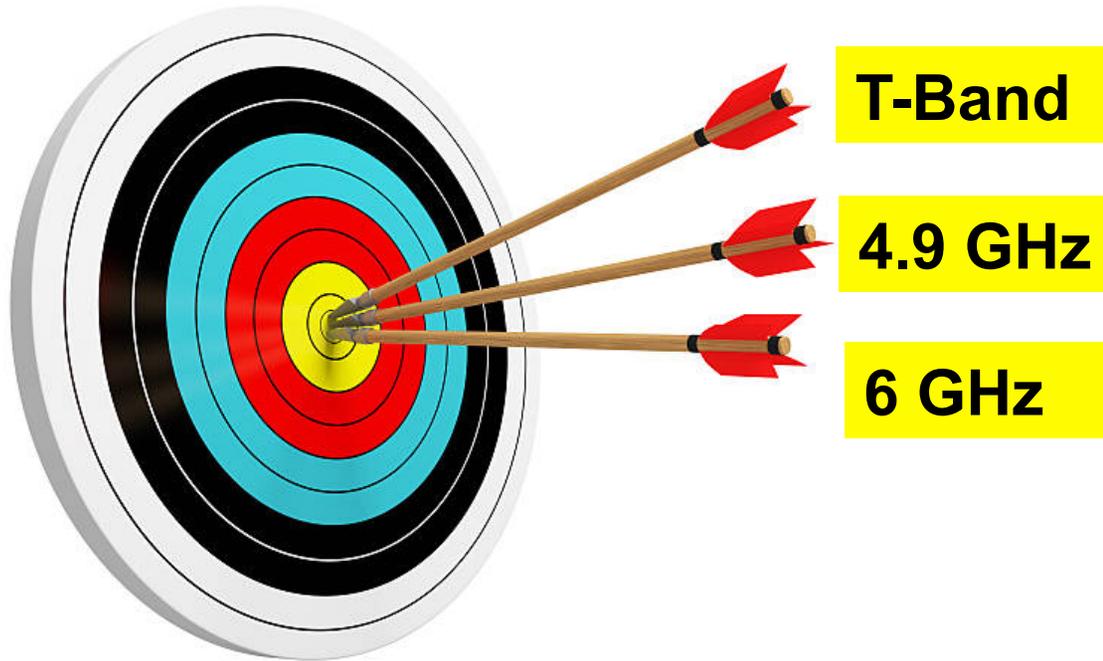
# Spectrum Management Committee

**Don Root, Chair**

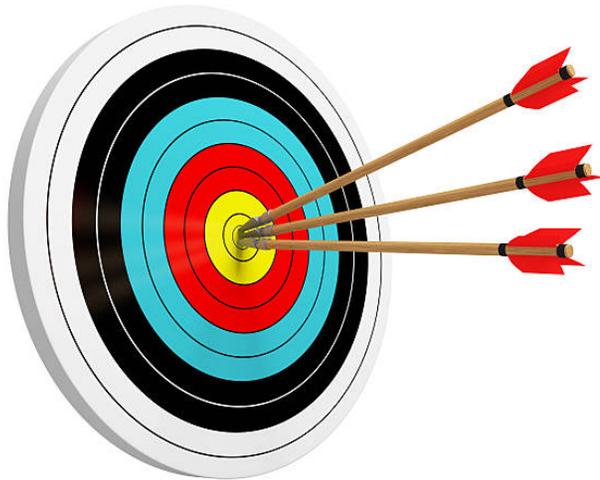
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# Public Safety Spectrum is Being Targeted

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# Public Safety Spectrum is Being Targeted

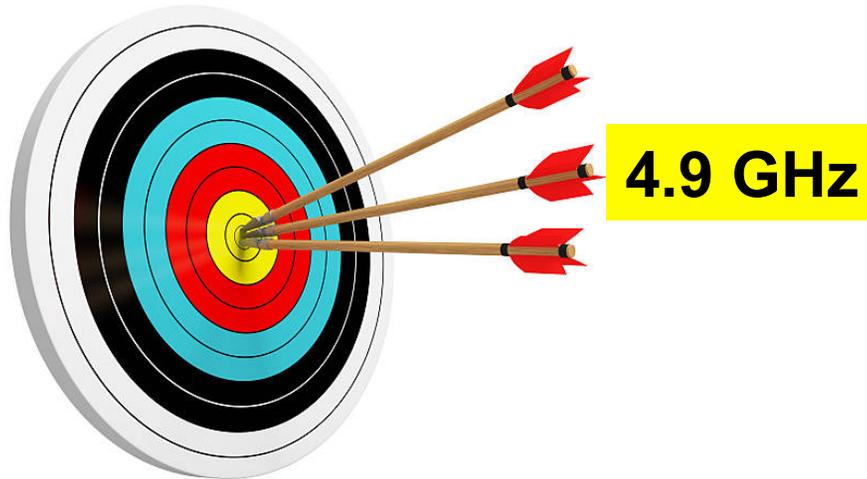


## T-Band

T-Band (470-512 MHz) spectrum is allocated for public safety and industrial/business use in 11 top urban areas.

- Section 6103 of P.L 112-96 requires FCC to begin auctioning public safety T-Band spectrum by February 2021 and clear public safety within 2 years of auction close.
- In December 2017, NPSTC formed T-Band Coalition.
- As a result of Coalition actions, H.R. 5085 was introduced February 2018 and S.3347 was introduced August 2018 to repeal Section 6103
- Status: As of 8/3/2018, H.R. 5085 has 19 co-sponsors in the House; S. 3347 has 4 co-sponsors in the Senate

# Public Safety Spectrum is Being Targeted



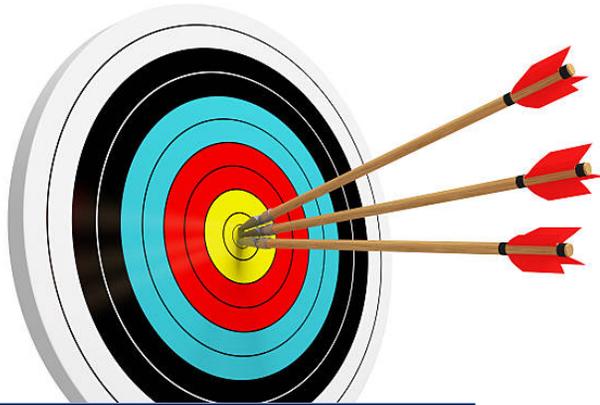
4.9 GHz Band

4.94 GHz

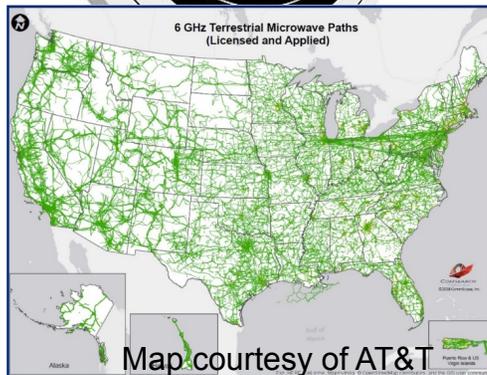
4.99 GHz

- FCC issued Sixth Further NPRM on 4.9 GHz in March 2018, claiming band is underutilized.
- NPRM proposes some rule changes NPSTC previously recommended.
- However, some FCC Commissioners expressed interest in reallocating and auctioning the band.
- NPSTC filed comments July 6 to set record straight on usage and importance of band to public safety
- NPSTC will file reply comments Aug 6

# Public Safety Spectrum is Being Targeted



**6 GHz**



- Public safety, CII and commercial users share the 6 GHz band
- The band is heavily used for fixed microwave links.
- Tech companies are promoting sharing the band for unlicensed WiFi
- NPSTC set forth need to protect public safety operations.
- FCC Chairman advised plans for NPRM on band sharing for this fall.

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# How To Connect With NPSTC

*Barry Luke, Deputy Executive Director*



# NPSTC Public Safety Calendar and Website

**National Public Safety Telecommunications Council**

Home | Current Topics | Organization | Committees | Events-Meetings | Participate-Volunteer | Resources

**Public Safety Calendar**

Welcome to NPSTC Video

Connect with NPSTC

Broadband Directory

Next Meeting

NPSTC Reports

"NPSTC is a federation of organizations whose mission is to improve public safety communications and interoperability through collaborative leadership"

**In the News...**

- NPSTC Files Comprehensive Comments to FCC on 4.9 GHz Band July 10, 2018
- APCO Seeks Comments on Draft Public Safety Grade Site Hardening Requirements Standard June 29, 2018
- Washington Post Reports: FirstNet Launches, Giving Police and Firefighters a Dedicated Wireless Network and Infinite Possibilities June 26, 2018
- NENA Honors Marilyn Ward as Part of Its "9-1-1 History and Heroes" Presentation June 25, 2018
- NPSTC Publishes NPSBN Position Statement June 20, 2018
- RCA Honors Member Harlin McEwen June 19, 2018

**Broadband Emerging Technologies**

**When** Wed, July 25, 12:00 – 13:00

**Description** Broadband Emerging Technologies Working Group 4th Wednesday of the month 12:00 p.m. to 1:00 p.m. Eastern time zone Conference Line: 510-227-1018 Conference ID: 869 9040# Screen Share link: <https://join.me/npstcsupport1> Kim Coleman-Madsen, Chair

[more details»](#) [copy to my calendar»](#)

**Public Safety Calendar**

Click Here to Troubleshoot Public Safety Calendar | Click Here to Download Calendar Instructions

Today | Jul 22 – 28, 2018 | Print | Week | Month | Agenda

Time	Sun 7/22	Mon 7/23	Tue 7/24	Wed 7/25	Thu 7/26	Fri 7/27	Sat 7/28
11:00						11:00 – 12:00 Video Technology	
12:00				12:00 – 13:00 Broadband Emerging			
13:00						13:00 – 14:00 EMS Working Group	
14:00			14:00 – 15:00 Interoperability Committee				
15:00							



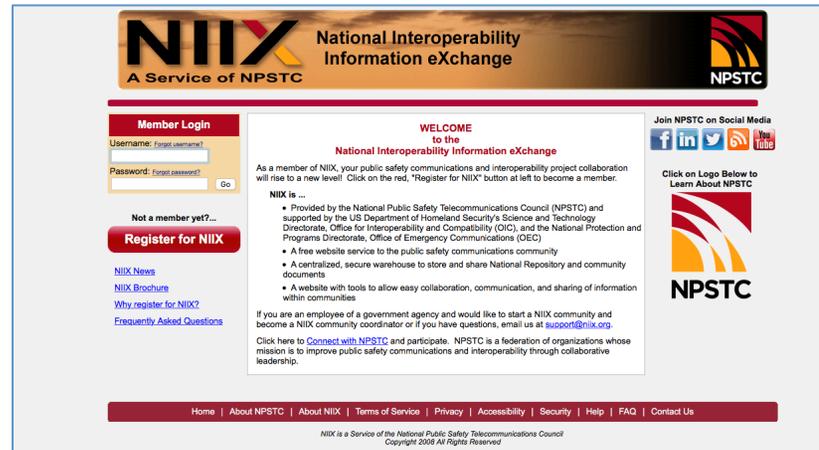
# National Interoperability Information eXchange

- NIIX

- A free centralized, secure warehouse to store and share National Repository and community documents.
- A website with tools to allow easy collaboration, communication, and sharing of information within communities.
- Locally controlled.

**Documents by Category**

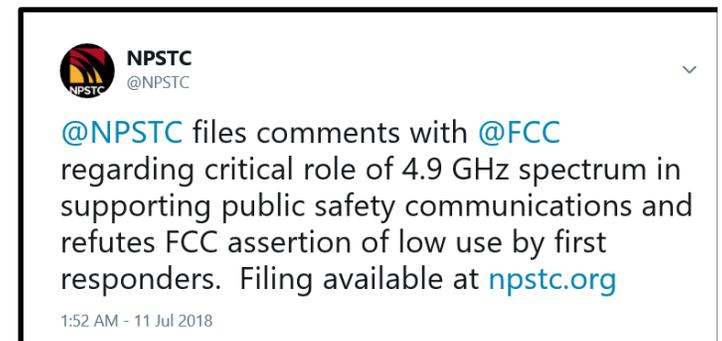
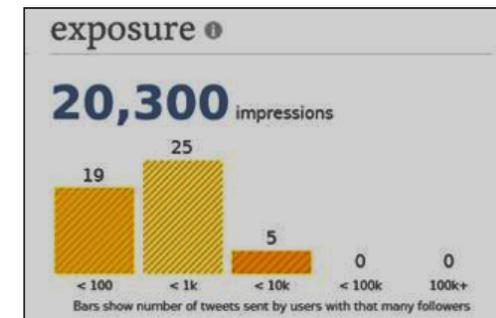
- [-] National
  - [-] Plans
    - [State Interoperability Plans](#)
    - [Strategic Plans](#)
    - [Tactical Plans](#)
    - [Radio Project Plans](#)
    - [Frequency Plans](#)
    - [Operational Plans](#)
  - [+] Agreements
  - [+] Governance, Policy, & Legislation
  - [+] Funding
    - [Best Practices](#)
  - [+] SOPs





## Social Media Outreach

- Outreach and Distribution
  - Constant Contact
  - NPSTC Website
  - NPSTC Blog
  - Linked-In
  - Facebook
  - Twitter
  - Coordinate with industry and member publications
  - Broadband Directory





## NPSTC Reports

- Reports located on NPSTC website, [www.npstc.org](http://www.npstc.org)
  - Radio Interoperability Best Practices
  - EMS Response to Sensor Based Alarms
  - Broadband Data Implications for EMS
  - T Band Report Update
  - 4.9 GHz National Plan Recommendations
  - UAS Communications
  - Public Safety LMR LTE Interoperability Report



▶ **Recently Published Reports**

▼ **Interoperability**

- NPSTC Radio Interoperability Best Practices Overall Combined Report (June 15, 2016)
- EMS WG Sensor Based Alarms (December 11, 2017)
- Radio Interoperability Best Practices Reports (multiple)
- NPSTC/NASEMSO Broadband Data Implications for Rural EMS (May 17, 2017)
- Report on the Use of Encryption on the Interoperability Channels (January 31, 2017)
- NPSTC Radio Interoperability Best Practices Overall Report (January 2017)
- Channel Naming Standard (ANSI 1.104.2-2017, January 10, 2017)
- Ten Reasons YOU Need to Be Engaged with FirstNet (September 10, 2016)
- Cross Border One-Pager (August 3, 2016)
- Intrastate Channel Naming Practice (June 13, 2016)
- EMS Telemedicine Report (March 3, 2016)
- Cross Border Communications: Barrier, Opportunities, and Solutions for Border Area Emergency Responders (March 11, 2015)

▼ **Spectrum Management**

- T-Band Update Report (May 31, 2016)
- NPSTC 4.9 GHz National Plan Recommendations (October 2013)
- NPSTC T-Band Report (March 2013)
- Public Safety Communications Assessment, 2012-2022: Technology, Operations, & Spectrum Roadmap Assessment of Future Spectrum and Technology (AFST) (July 2012)
- Best Practices for In-Building Communications (November 2007)

▼ **Technology and Broadband**

- Using UAS for Communications Support (May 30, 2018)
- UAS Communications Spectrum and Technology Considerations (May 30, 2018)
- NPSTC Public Safety LMR LTE Interoperability Report (January 8, 2018)
- Guidelines for Creating a UAS Program (April 18, 2017)
- NPSTC/CSS Broadband Deployable Systems Report (March 31, 2017)
- Report on the Use of Encryption on the Interoperability Channels (January 31, 2017)
- NIST Video Analytics in Public Safety (VAPS) Final Report (NISTIR 8164, January 30, 2017)
- FirstNet Local Web Status Page Report (December 2, 2016)



# NPSTC Participation Sign Up

Organization	Committees	Events-Meetings	Participate-Volunteer	Resources
<p><i>"NPSTC is a federation of organizations whose mission is to improve public safety communications and interoperability through collaborative leadership"</i></p> <p><b>In the News...</b></p> <ul style="list-style-type: none"><li><b>NPSTC Files Comprehensive Comments to FCC on 4.9 GHz Band</b> July 10, 2018</li><li><b>APCO Seeks Comments on Draft Public Safety Grade Site Hardening Requirements Standard</b> June 29, 2018</li></ul>				

### NPSTC Participant Registration

\* Email Address

\* First Name

\* Last Name

\* Company

Email Lists

- 1.0 - Interoperability Committee
- 1.1 - Cross Border Working Group
- 1.2 - Emergency Medical Services (EMS) Working Group
- 1.3 - Radio IO Best Practices Working Group
- 2.0 - Spectrum Management Committee
- 2.1 - Interference Protection Working Group
- 3.0 - Technology & Broadband Committee
- 3.1 - Broadband Deployable Systems Working Group
- 3.2 - Broadband Emerging Technologies Working Group
- 3.3 - LMR LTE Integration & Interoperability Working Group
- 3.4 - Radio Programming & Compatibility Rqmts (Radio PCR) WG
- 3.5 - Unmanned Aircraft Systems and Robotics WG
- 3.6 - Video Technology Advisory Group
- 3.7 - Internet of Things (IoT) Working Group



## Questions (.....and answers)

*Ralph Haller, Moderator*



# Thank You!

**Stop by our Booth # 656 on the Exhibit Floor**  
**Next Governing Board Meeting via Teleconference:**  
**Thursday, September 6, 2018**  
**1:00 PM Eastern Time Zone**

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