NPSTC's Annual Current Events Update

APCO International Conference
August 14, 2016
Orlando, Florida

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Welcome and Opening

Ralph Haller, *Chair*
John Lenihan, Chair, Interoperability Committee
Tom Sorley, Chair, Technology and Broadband Committee
Stu Overby, Spectrum Management Committee
Barry Luke, NPSTC Deputy Executive Director

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NPSTC Mission Statement

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

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Governing Board
(Voting Member Organizations)

NPSTC

International Association of Chiefs of Police – Police – Since 1893

National Sheriffs' Association

NATIONAL SHERIFFS' ASSOCIATION

International Association of Fire Chiefs

NASEMSO

APCO International
Leaders in Public Safety Communications

NENA THE 9-1-1 ASSOCIATION
The only organization solely focused on 9-1-1 policy, technology, operations, and education issues.

IAEM
International Association of Emergency Managers

IMSA
Your Partner in PUBLIC SAFETY

Association of Fish & Wildlife Agencies

FCCA

National Association of State Foresters – Founded 1920

AASHTO

ARRL

NCSWIC

NASTD
National Association of State Technology Directors
Technology Professionals Serving State Government

NASCIO
Representing Chief Information Officers of the States

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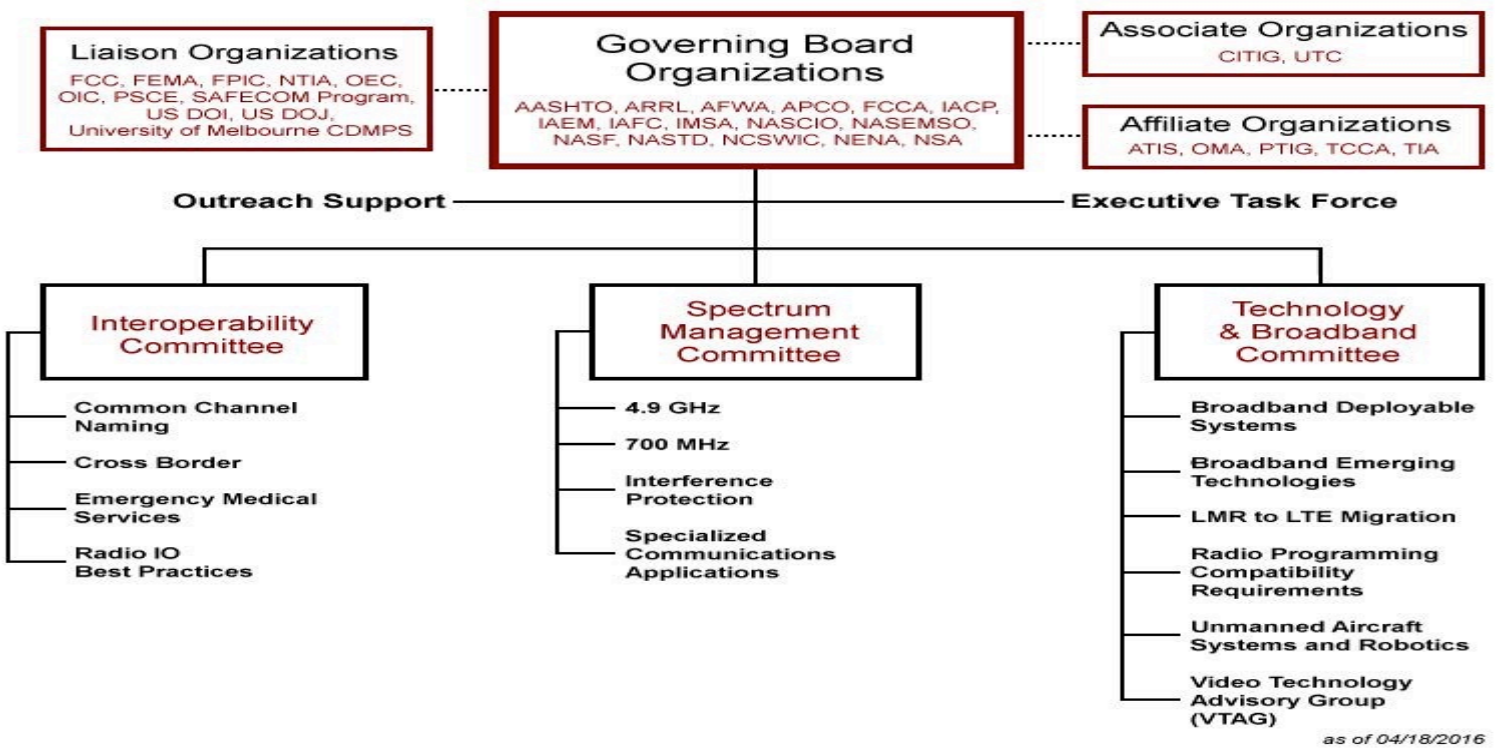
Organization Chart



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Session Overview

- Interoperability Update
- Technology and Broadband Update
- Spectrum Management Update
- How to Get Involved

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Interoperability Committee

John Lenihan, Chair

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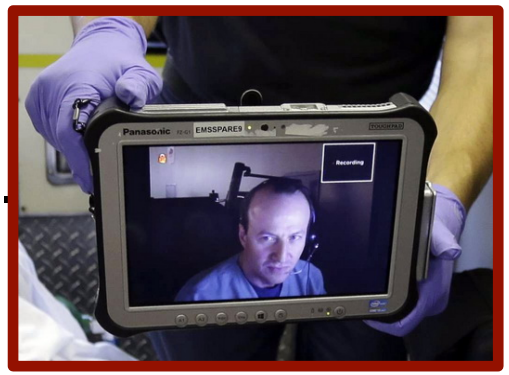
Emergency Medical Services

- Discussing rural use of FirstNet by EMS.
- Researching emergence of GPS enabled medical alarms.
  - Wearable medical alarms which activate while patients are away from home.
  - Some devices may transmit medical data.
- Studying state EMS Communications Plans.



Emergency Medical Services (continued)

- Monitoring pre-hospital video by EMS personnel
  - EMS Telemedicine Report published in 2015
  - Continue to monitor video use by EMS agencies

Cross Border Working Group

- Regulatory Update on Cross Border Base Stations
  - FCC and Canada released guidance on cross border base station placement on June 30th.
  - U.S. public safety agencies can place a base station radio across the border in Canada to support interoperability or local operations.
  - U.S. public safety units can transmit through Canadian public safety agency radio systems.

Cross Border Working Group *(Continued)*

- Mobile and Portable Radio Use at the Border
  - Complements FCC notice on cross border use of portable and mobile radios issued in November of 2015.
  - Portable and mobile radios may be used across the international border.

Cross Border Working Group *(Continued)*

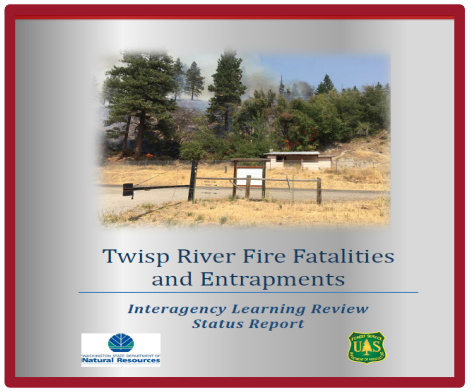
- Cross Border 911 data sharing
  - How does a U.S. PSAP access Canadian customer cellular account information?
  - How does a U.S. PSAP obtain GPS coordinates from a Canadian cell phone carrier during a border emergency?

Cross Border Working Group *(Continued)*

- Emergency Vehicle Border Crossing Best Practices
  - Report on strategies for expedited border crossings to assist fire and EMS agencies whose units transit the U.S./Canadian border.

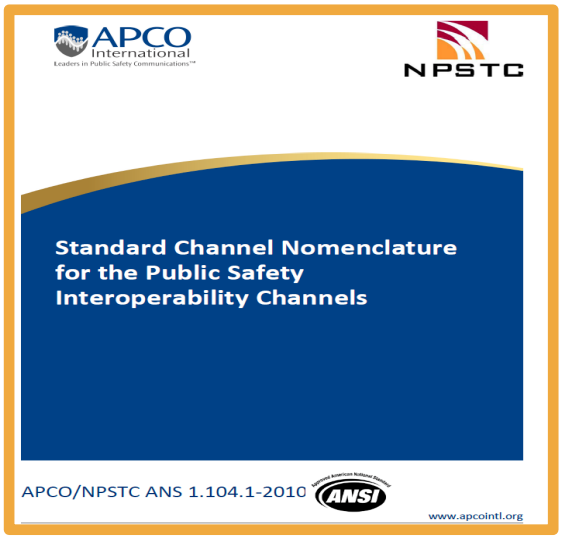
Radio IO Best Practices Working Group

- This group reviews after-action reports following major incidents and creates best practice recommendations to ensure successful operations.
- The following Best Practice Statements are either near completion or are in progress:
  1. Radio Channel Naming
  2. Training on use of I/O systems and equipment
  3. Change Management Process involving I/O systems
  4. Infrastructure Management for I/O networks



Common Channel Naming Working Group

- ANSI Standard on Interoperability Channel Naming
  - Recently updated the ANSI standard on Common Channel Naming to include new 700 MHz channels.
  - APCO is finalizing the ANSI review and approval process.



Common Channel Naming Working Group

(Continued)

- NPSTC Intrastate Common Channel Naming Report
  - Recently published a report on recommendations for naming intra-state interoperability channels.

Encryption Interoperability Task Force

- FCC rule issued in April mandates use of analog FM for mobiles/portables on FCC-designated interoperability channels in the VHF, UHF and 800 MHz Band.
  - This rule effectively prohibits use of digital encryption on designated nationwide interoperability channels.
  - Encryption is allowed on Tactical channels in all bands.
  - Encryption is allowed on 700 MHz I/O channels (other than Calling Channels).

Encryption Interoperability Task Force

(continued)

- NPSTC issued a question to the Participants Forum on July 13, 2016 asking for feedback on the new FCC rule.
- Feedback results of July 23, 2016:
  - 42 Responses
  - Mix of local, state, law enforcement and fire
  - Overwhelming support for FCC analog FM rule
  - Only one response raised concerns

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Technology and Broadband Committee

Tom Sorley, Chair

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Broadband Emerging Technologies Working Group

- Hosted several presentations on current topics.
  - FirstNet Web Status Page
  - NIST overview of sensors and connected systems
  - State Alternative Planning Approaches Panel Discussion

Broadband Emerging Technologies Working Group (continued)

- NIST Smart Cities Project
  - Upcoming presentations:
    - NG911 and broadband data (August)
    - FirstNet Incident Web Status Page Requirements (August)
    - International LTE deployments in the United Kingdom (October)

LMR to LTE Migration Working Group

- Interoperability of public safety LMR with FirstNet mission critical voice
- Created five use cases to validate existing NPSTC PTT requirements
- Working with PSCR to better understand the technical complexity of direct mode/off network communications.

LMR to LTE Migration Working Group

(Continued)

- Examining how Unit ID and Alias may work in LTE
- Reviewing LMR and LTE Responder Emergency feature
  Distribution of the emergency alert across both networks
- Examining differences in the LTE scan function
  LTE has multi-audio monitor, not sequential scan

Broadband Deployable Systems

- LTE Broadband Deployable Network issues for public safety, including backpack, vehicular, towed and airborne solutions.
- Created nine use cases and identified needed operational capabilities and technical challenges

The Deployable Solution **SHALL** be able to interface with designated alternative backhaul technologies (e.g. satellite, microwave radio, and other backhaul technologies to provide alternative back haul in the event the terrestrial infrastructure is unavailable).
The Deployable Solution **SHALL** accommodate the arrival and departure of other active Deployable Systems with minimal disruption to public safety applications in use,
The Deployable Solution **SHALL** include backhaul connectivity to the NPSBN core network with sufficient capacity to support the available applications and services.

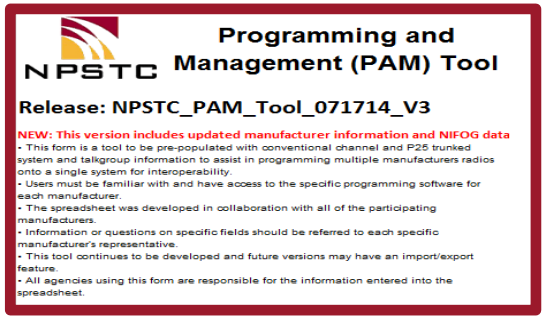
Broadband Deployable Systems **Incident Command/COML Decision Matrix** **Version: 10/7/2015**
This document is designed to assist an incident command or COML in selecting the proper deployable system resource. The answers to the matrix questions below would be coupled with additional information on the incident location, type of terrain, and other factors that would impact the use of a backpack, vehicular, towed-trailer COW/SOW,or aerial solution.
The DS needs to support PS User Group Size "A" (to be defined, large number of users) N= ____ The DS needs to support PS User Group Size "B" (to be defined, medium number) N = _____ The DS needs to support PS User Group Size "C" (to be defined, small group) N = _____

Broadband Deployable Systems *(continued)*

- Finalizing list of public safety requirements for broadband deployable systems, including interoperability at the U.S./Canada border.
- Finalizing an Incident Commander check list with recommendations on deployable systems usage.

Radio Programming Compatibility Requirements (Radio PCR)

- Performing a Quality Assurance Check on a new version of the PAM Tool with new 700 MHz channels added.
- Asking industry partners to verify that their subscriber information listed in the PAM Tool is correct.
- Planning a face to face meeting on September 20-21 in Houston.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Programming and Management (PAM) Tool

Release: NPSTC_PAM_Tool_071714_V3

NEW: This version includes updated manufacturer information and NIFOG data

- This form is a tool to be pre-populated with conventional channel and P25 trunked system and talkgroup information to assist in programming multiple manufacturers radios onto a single system for interoperability.
- Users must be familiar with and have access to the specific programming software for each manufacturer.
- The spreadsheet was developed in collaboration with all of the participating manufacturers.
- Information or questions on specific fields should be referred to each specific manufacturer's representative.
- This tool continues to be developed and future versions may have an import/export feature.
- All agencies using this form are responsible for the information entered into the spreadsheet.

Unmanned Aircraft Systems (UAS) and Robotics

- Heard presentations on the following topics
  - Larimer County UAS Program (accident scene reconstruction)
  - Use of UAS for SAR (by Texas A&M University)
  - Regulatory guidance on UAS (by FAA)
  - Michigan State Police Aviation UAS program
  - Persistent Close Air Support, State of Arizona

Unmanned Aircraft Systems (UAS) and Robotics

- Working on outreach documents
  - Considerations for public safety agencies when implementing a UAS program
  - Overview of current operational uses of UAS/Robotics by Public Safety
  - Public Safety communications aerial platforms via UAS

Video Technology Advisory Group (VTAG)

- Policy Considerations for Public Safety Video Programs
  - Final report released by Video Quality in Public Safety (VQIPS)
  - Available on NPSTC website
- Supported the Video Analytics in Public Safety (VAPS) conference sponsored by NIST.
  - Reviewing public safety agency implementation of video systems and use of analytics.

Video Technology Advisory Group (VTAG)

- Preparing sessions for the upcoming VQIPS Annual Workshop, being held in Seattle, WA on August 31 and September 1, 2016.

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Spectrum Management Committee

Stu Overby, NPSTC Support

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Spectrum Management Committee

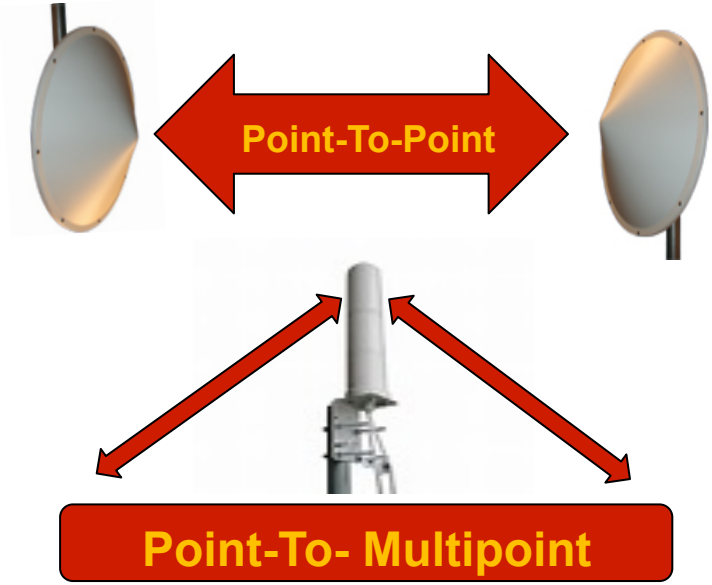
- Found minimal changes in T-Band licenses since 2013
- Counted 90M people in 11 T-Band areas public safety serves
- Catalogued 325 full power & Class A TV stations in T-Band
- Reaffirmed conclusions from March 15, 2013 NPSTC T-Band Report

Spectrum Management Committee

- NPSTC petitioned FCC to provide railroad police eligibility for public safety interoperability channels.
- Historically, such use has required MOUs with multiple jurisdictions.
- Decision on rule changes expected soon.

Spectrum Management Committee

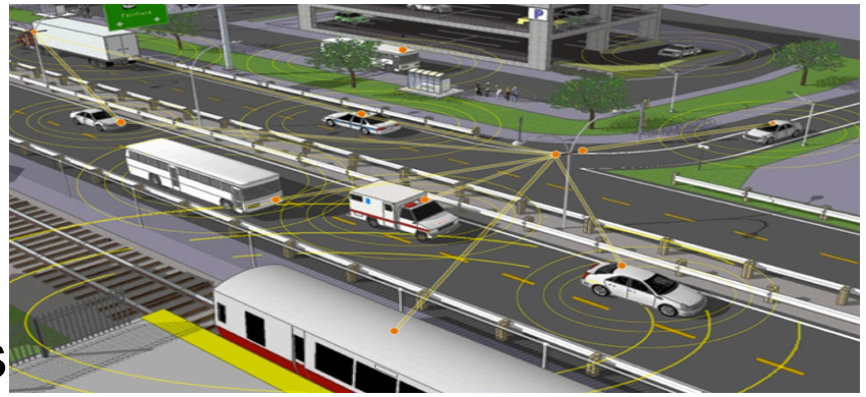
- 4.9 GHz Public Safety Band (50 MHz Total)
- FCC Opened Proceeding in 2012 to Modify Rules
- NPSTC 4.9 GHz National Plan Recommendations October 2013
- APCO 4.9 Task Force Report: September 2015
- We Expect FCC Further Proposal



- Improved Frequency Coordination & Licensing
- Access by Critical Infrastructure
- Airborne/Robotic Use

Spectrum Management Committee

- 5.9 GHz Dedicated Short Range Communications (DSRC)
- Vehicle-to-Vehicle & Vehicle-to-Roadside Communications
- Wi-Fi Proponents Pressing to Share DSRC Spectrum
- FCC Proposed Plan to Test Spectrum Sharing



DSRC: 75 MHz of Spectrum

Current WiFi: 580 MHz of 5 GHz Spectrum

NPSTC Spectrum Committee

- FCC's Technological Advisory Council (TAC) studying changes in noise floor over last 20 years.
- NPSTC comments filed August 11, 2016 speak to noise in proximity of energy-efficient lighting devices.
- NPSTC comments also recommend studying noise near wind farms and cell sites.

NPSTC Filings with FCC in 2016

Date Filed	Topic	Type of Filing
8/11/16	Noise Floor	Comments
7/22/16	5.9 GHz DSRC	Reply Comments
7/13/16	Interference Portal	Letter
7/8/16	4.9 GHz	Ex Parte (#2)
7/7/16	5.9 GHz DSRC	Comments
6/21/16	Ligado 1675-1680 MHz	Comments
6/3/16	T-Band Update Report	Ex Parte
5/23/16	Ligado 1545-1555 MHz	Comments
4/21/16	4.9 GHz	Ex Parte (#1)
1/13/16	Wireless Emergency Alerts	Comments

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How to Get Involved

Barry Luke, NPSTC Deputy Director

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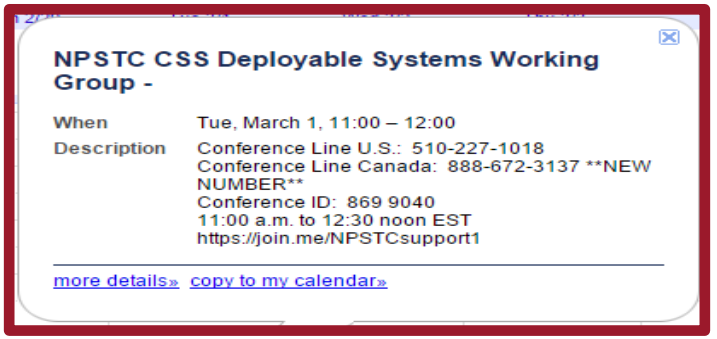
NPSTC Website and Calendar



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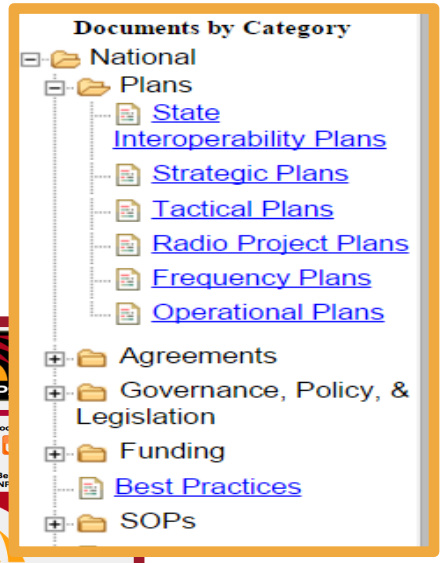
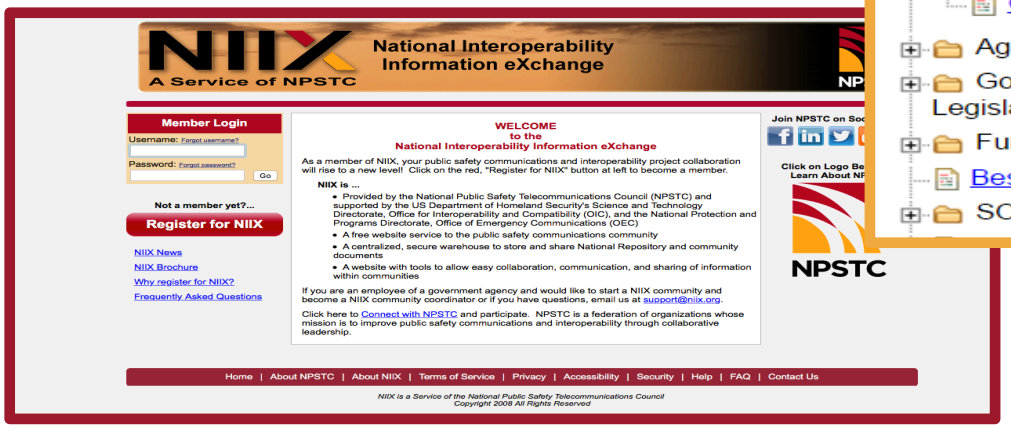
National Interoperability Exchange (NIIX)

- 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.





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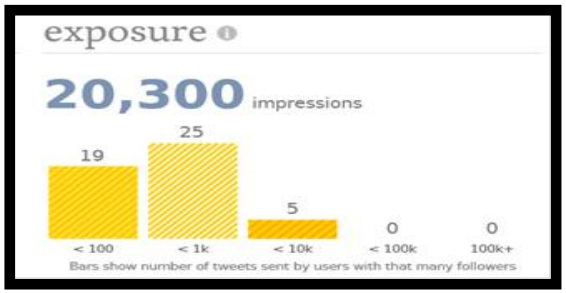
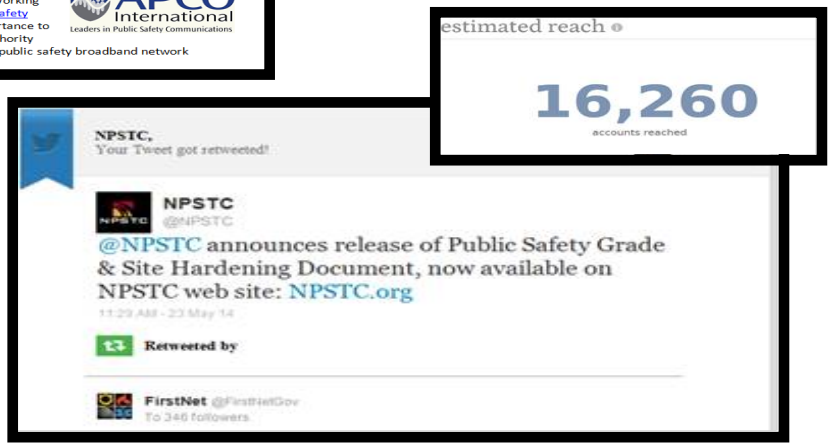
Social Media Outreach

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





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Reports Available for Review

- Reports located on NPSTC website, *www.npstc.org*
  - Public Safety Grade and Site Hardening Requirements
  - Mission Critical Voice Over LTE
  - Master 700 MHz Broadband SOR
  - Launch SOR Qualitative
  - Local Control Definitions
  - Priority and Quality of Service
  - Push to Talk Requirements for Public Safety

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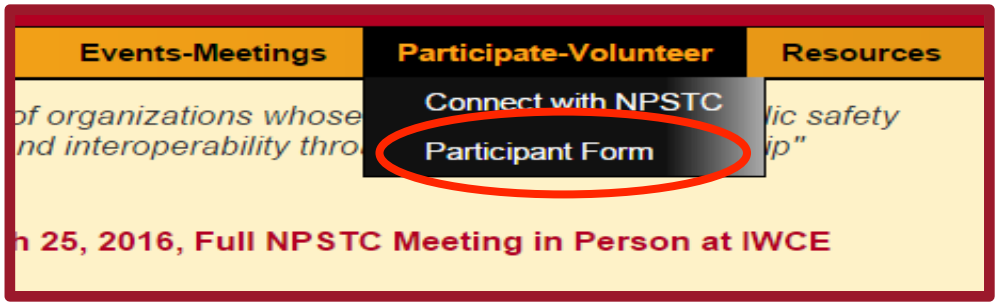
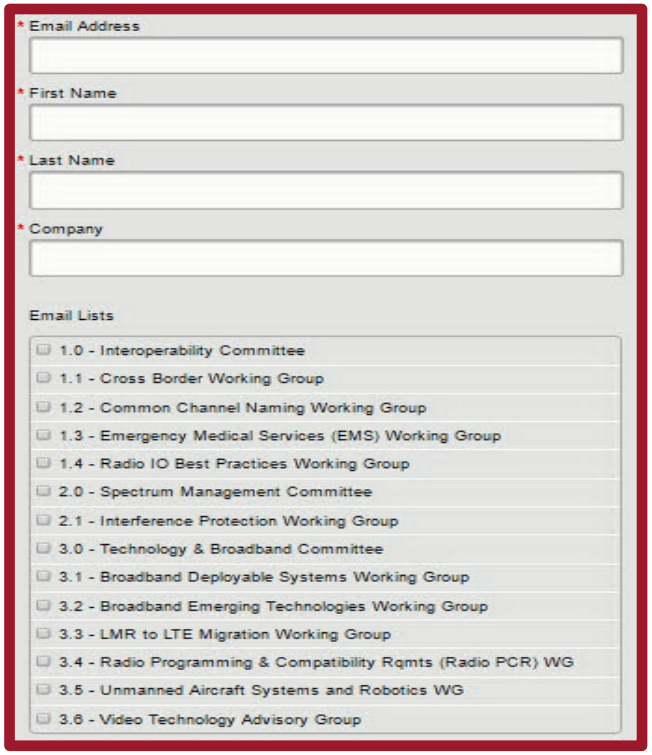
NPSTC Participation Sign Up





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Thank you!

Please visit the NPSTC Booth #565

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