



Full NPSTC Meeting

Tuesday, January 24Call In: (510) 227-1018 | Conference ID: 192 7086Webinar Access Information : https://join.me/NPSTCsupport1Submit Questions OnlineSend email to support@npstc.org

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 and Opening



- Ralph Haller, NPSTC Chair
 - Call to Order
 - Roll Call via email to attend@npstc.org
- Technical Tips
 - Webinar Access Information: https://join.me/NPSTCsupport1
 - Online participants submit questions to <u>support@npstc.org</u>.
 Do NOT use the the join.me chat bubble, it will be displayed to all.
 - Please mute your phone to minimize background noise. You may also press *6 to mute your line
 - Please do <u>not</u> put your line on hold if you have the "music on hold" feature.





Federal Partners Update

Department of Homeland Security (DHS), Office for Interoperability and Compatibility (OIC) – John Merrill, Director Department of Homeland Security (DHS), Office of Emergency Communications (OEC) – Dusty Rhoads, Chief, Public Safety and NSEP Communications Governance Branch

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.





Federal Partners Update (continued)

Department of Homeland Security (DHS), Science and Technology Directorate (S&T), Briefing on Incident Management Preparedness and Coordination Toolkit (IMPACT) – Nicolas Eiden, Program Analyst

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.

Incident Management Preparedness and Coordination Toolkit

- Simple to use
- Custom map making
- Con-ops simulation
- Pre-event planning
- Real-time data feeds
- GPS tracking
- Facility protection
- Automated reports
- Table top and live exercises
- Desktop, laptop, or tablets with server
- Windows, Mac, Linux
- Works with/without network connection
- Free



http://web.ornl.gov/~ko5/impact/



Daniel B. Koch, Ph.D. Oak Ridge National Laboratory kochdb@ornl.gov



Lat: 35.951





Technology and Broadband Committee

Tom Sorley, Chair Andy Thiessen, Vice Chair Dr. Michael Britt, Vice Chair

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.



Public Safety Communications Research (PSCR)

Dereck Orr, Division Chief



Broadband Deployable Systems Working Group

Barry Luke, Deputy Executive Director



Broadband Deployable Systems

- Broadband Deployable Systems Report
 - Still being updated and edited
 - Finalizing key recommendations
 - Expect completion in February

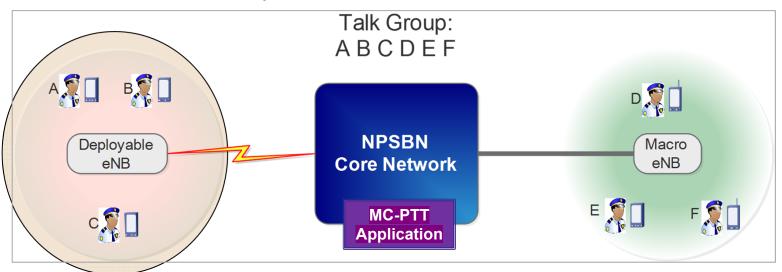


- Broadband Deployable Systems Report
 - One issue of significance involves how certain applications and services are managed when a deployable systems is used, (e.g. Mission Critical Push to Talk [PTT])

Broadband Deployable Systems

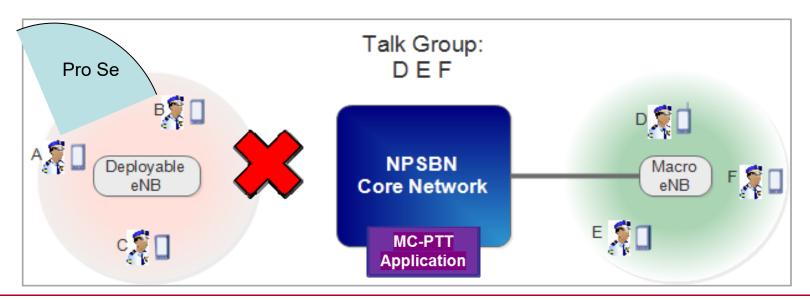


- Mission Critical PTT FirstNet Core Hosted
 - In this example, the PTT application is hosted on the FirstNet core network.
 - The deployable system is connected to the FirstNet network via a backhaul connection (e.g. satellite, 4.9 GHz, etc.)





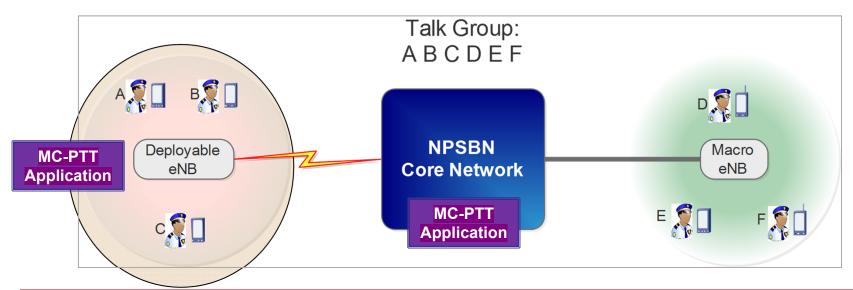
- If backhaul connection is lost (FireNet Core hosted):
 - Users communicating through FirstNet towers (core network) will still be able to talk (e.g. responding units and dispatcher).
 - Users at the incident scene, connected through the deployable will lost their MC PTT service and will have to use direct mode/Pro Se communications path.



Broadband Deployable Systems

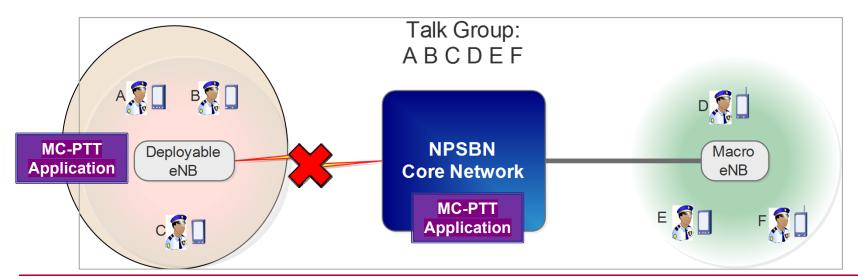


- In this example, the MC-PTT application is hosted on the both the Deployable System and the FirstNet Core.
 - 3GPP has an evolving standard for dual hosted MC-PTT servers
- First responder radio communications must flow to a primary MC-PTT server (either core or Deployable). The secondary MC-PTT server is a mirror image of the primary.





- If the backhaul connection is lost:
 - Users communicating through FirstNet core network will maintain their talk group
 - Users at the incident scene, communicating through the deployable system, will be switched to a talk group.
 - Unknown transition time (depends on configuration)







- Mission Critical Push To Talk
 - Discussion is ongoing to more fully understand how this may work, including consultation with PSCR.
 - Results from this working group will be shared with the LMR
 LTE Integration and Interoperability working group.

NPSTC

Broadband Emerging Technologies Working Group

Kim Coleman-Madsen, Chair

Broadband Emerging Technologies



- Continuing with Educational Presentations
 - United Kingdom provided an update on their implementation of public safety broadband (October session)
 - The Duke University, DiVE program (Duke Immersive Virtual Environment) provided an overview of their work with virtual reality and simulation (November session)
 - PSCR will be providing an update on their projects (January session)
 - A panel discussion on Small Cell Technology is being organized for the February session.
- FirstNet Web Status Page Report
 - Was approved by the Governing Board in December and transmitted to the FirstNet PSAC.
 - Positive feedback has been received from the public safety community.

NPSTC

LMR LTE Integration and Interoperability Working Group

Chris Kindelspire, Chair

LMR LTE Integration and Interoperability



- Working Group Update
 - Continuing the development of use cases to study how LMR and FirstNet may integrate.
 - Examining various technical and operational issues surrounding the use of encryption by interconnected first responders who are using both LMR and LTE.
 - <u>Transcoding Option</u>: LMR uses P25 encryption and LTE uses a different encryption. Encrypted messages are "decoded" and "recoded" at the point of the connection; allowing both networks to maintain their own encryption keys.
 - <u>End to End Encryption</u>: LMR and LTE share the same encryption scheme and there is no break in the security of the message from one first responders device to another.
 - Future discussions will involve a review of Regrouping and Rekeying for LMR and LTE.



3rd Generation Partnership Project (3GPP) Standards Update

Andy Thiessen, Technology and Broadband Committee, Vice-Chair

NPSTC

3GPP Standards Update

- Public Safety issues in 3GPP
 - Release 14
 - Mission Critical Push To Talk over LTE
 - Mission Critical Video
 - Mission Critical Data
 - Common Core
 - IOT/Wearables
 - 5G (Release 15/16)
 - Dynamic Policy Control
 - Phase 1 (Release 15) content



- Public Safety issues in 3GPP
 - December plenary meeting in Vienna, Austria focused on approving a number of change requests to further tighten the Mission Critical services
 - March plenary meeting will be held in Dubrovnik to review and approve the work done thus far
 - 5G Stage 1 work on Dynamic Policy Control will be sent to plenary for information before final approval in June



Internet of Things (IoT) Working Group Status Update

Tom Sorley, Technology and Broadband Committee Chair



- Governing Board authorized the creation of a new group to study IoT
 - Preliminary work has been done in the Broadband Emerging Technologies Working Group, but IoT is a very large area of study.
 - Need to examine the broad range of IoT issues and focus on a small number of projects that are manageable.
 - Let working group members receive presentations on current activity and then identify recommended projects.
 - NIST, PSCR, S&T are all heavily engaged in this area and will be invited to discuss their projects.
 - The goal is to not duplicate any existing work



Internet of Things (IoT) Working Group

- Working Group Chair
 - Barry Fraser has volunteered to lead this working group.
 - Vice Chair(s) will be selected, as needed, once the group is organized.
 - Working Group charter was previously distributed to the Governing Board
- ACTION NEEDED: Governing Board approval to appoint Barry Fraser as Chair of this group



Radio Programming Compatibility Requirements (Radio PCR)

Tom Sorley, Technology and Broadband Committee Chair Dan Robinson, Radio PCR Working Group Chair



Radio PCR Working Group Update

- PAM Tool Update
 - Work continues on recommendations from the working group face to face meeting in Houston in September:
 - Add Channel Names and full NIFOG channels list to each vendor tab to make use of PAM easier. (completed)
 - Deliver working PAM tool to DHS (in progress)
 - Posting to new internet home (DHS Public Safety Tools or similar site)
 - Operation and Maintenance of the PAM Tool



Radio PCR Working Group Update

- PAM Tool Update, continued
 - Develop request for a "Technical Bulletin" to be submitted to TIA.
 - Make mandatory PAM fields into common interchange format
 - Develop Collateral to explain/support TIA request
 - Visual Aid to include Pre-PAM tool, PAM tool now, and future state.
 - Support letters to be submitted with TIA request.
 - Attend January TIA meeting to promote submission
- ACTION NEEDED: Governing Board approval of "letter of support" for TIA to create a technical bulletin on radio programming common interchange format.



Unmanned Aircraft Systems (UAS)/Robotics

Dr. Michael Britt, Chair

Unmanned Aircraft Systems (UAS)/Robotics



- Working Group Update
 - Nearing completion of the first report: Public Safety Guidelines for UAS Programs
 - Reviewing an extensive collection of reports coming from other agencies and entities:
 - Community Policing and Unmanned Aircraft Systems, DOJ COPS
 - Five things to know about small unmanned aircraft systems, Police Foundation
 - Preparing for an IWCE panel on UAS and Robotics.
 - Will examine UAS as an aerial communications platform, leveraging information from the Broadband Deployable Systems final report
 - Initial effort will focus on general UAS requirements from a public safety mission perspective – flight time requirements, sensors required, telecommunications equipment capabilities and power required
 - Doing so will drive the appropriate UAS systems and solutions



Video Technology Advisory Group (VTAG)

John Contestabile, Chair

Video Technology Advisory Group (VTAG)



- Working Group Update
 - Participating with Underwriters Laboratory (UL) on a survey to capture requirements for tactical video cameras
 - Participated in a review of the final report created by the NIST
 Video Analytics in Public Safety (VAPS) program office.
 - Assisted with the review of the VQiPS Video Handbook, Volume 2
- DHS S&T VQiPS Update
 - DHS published "Policy Considerations for the use of Video in Public Safety on 24 June 2016. The cover article published in the Mission Critical Communications, October issue was based on this report.
 - VQiPS Annual Meeting was held in August in Seattle, WA
 - VQiPS program presentation given at Secured Cities conference in November in Houston, TX.
 - Membership rotation of VQiPS to occur in Spring 2017





Governing Board's Appointed Delegates

Alarm Industry Communications Committee (AICC) – Doug Aiken, NPSTC Vice Chair

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.

Alarm Industry Communications Committee



- What is the AICC?
- The Alarm Industry Communications Committee (AICC) is a committee composed of representatives of the Central Station Alarm Association (CSAA) International, the Electronic Security Association (ESA), the Security Industry Association (SIA) and major alarm companies and manufacturers.



Alarm Industry Communications Committee



- The Central Station Alarm Association International (CSAA) is an internationally-recognized non-profit trade association that represents professional monitoring companies that are listed by a CSAAapproved Nationally Recognized Testing Laboratory
 - CSAA is a recognized FCC frequency coordinator for Industrial/Business channels below 800 MHz under Section 90.35 of the Commission's Rules.
 - Since its incorporation in 1950, CSAA has served its members' interests through education, online training, meetings and conventions, certification, insurance, and industry standards.



- Provides coordination in a variety of areas between the alarm industry and the FCC, other regulatory agencies, and members of Congress, when needed.
- Monitors developments at the federal level affecting the ability of the alarm industry to use telecommunications technology in providing protection services to the public.
- **Retains an attorney** in Washington, D.C. to represent the industry on wireline and wireless issues and to file briefs with the federal courts on behalf of the industry.
- **Retains a lobbyist** who works with members of Congress to attain legislation favorable to the alarm industry



- Communications network alternatives as copper networks are retired
- Wireless networks technologies
- Sharing of central station 450 MHz LMR channels
- FirstNet opportunities
- Securing the Internet of Things
- Legislative issues



- March 9, 2017 in Washington
- The AICC chair is Louis T. Fiore
- The AICC meets quarterly in Washington, DC.
- NPSTC Representative to AICC is Chief Douglas M. Aiken





FirstNet NPSBN Development

Kevin McGinnis, Board Member





Interoperability Committee

John Lenihan, Chair Jason Matthews, Vice Chair

Emergency Medical Services

Paul Patrick, Chair

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

NPSTC



- Finalized "10 Reasons EMS Should Be Engaged with FirstNet"
 - Approved by the Governing Board in October 2016
 - Distributed broadly and used at EMS World Conference
- Presentation received on Mobile Personal Emergency Response Systems (mPERS)
 - GPS incorporated with cellular network services allow users to travel anywhere and press the help button.
 - Fall Detection technology is being used to activate alerts when the patient can't.



- Currently reviewing considerations for rural EMS providers and the role of FirstNet.
 - Kevin McGinnis gave a presentation at the January meeting.
- Planning to review and refresh the list of EMS centric public safety broadband applications

Cross Border Working Group

Steve Mallory, Chair

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

NPSTC



- Working with OEC to encourage other states to adopt best practices and recommendations coming from the completion of the Border Interoperability Demonstration (BIDP) grants.
 - State of Washington is examining options for improved coordination with Canada
 - North Dakota has filed for a wavier of FCC rules to implement the Montana cross border solution using VLAW31.
- Finalizing a report on cross border data sharing involving access to cellular company network data and account data.



- Monitoring work of the Broadband Deployable Systems working group, regarding how users of FirstNet may interact with Canadian first responders.
- Working with FCC to host another webinar on cross border base station licensing.

NPSTC

Encryption on Interoperability Channels

Jason Matthews, Task Group Chair

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

Encryption on Interoperability Channels



- Reviewed how encryption is used by public safety agencies.
 - Poll distributed to public safety agencies in May 2016
- Reviewed recent FCC decision regarding analog and digital operations on designated nationwide interoperability channels.

Encryption on Interoperability Channels



- Finalized outreach document to educate public safety agencies on this issue:
 - Encryption is not allowed on nationwide interoperability calling channels and tactical channels in VHF, UHF and 800 MHz
 - Encryption is not allowed on 700 MHz calling channels, but is allowed on 700 MHz tactical channels.
 - Some frequencies are allocated as Mutual Aid channels (e.g. VLAW and VFIRE), and encryption is allowed.
 - Encryption is allowed on local, regional and statewide interoperability channels (if allowed by the local authority)
- ACTION NEEDED: Governing Board approval of the "Encryption on Interoperability Channels" report.



Common Channel Naming ANSI Standards Update

Don Root, Chair

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

Common Channel Naming Working Group



- The revised APCO-NPSTC ANSI standard on common channel nomenclature has been approved!
 - This revision will be a 2017 ANSI standard.
 - The 2016 NIFOG Manual is now in sync with the ANSI standard.
 - The Governing Board previously voted to submit this to APCO (which manages the ANSI standards approval process).



Radio IO Best Practices Working Group

John Lenihan, Interoperabilty Committee, Chair

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



Radio Interoperability Best Practices

- The group continues to review after action reports and work on new best practice documents.
- The following reports have been completed:
 - Best Practices Master Report has been completed:
 - This is an overview of the Best Practices project and is a companion document to any individual best practice report.
 - Best Practice 1: Channel Naming
 - Best Practice 2: Change Management
 - Best Practice 3: Training
- Additional best practice reports are "in the pipeline"
- ACTION NEEDED: Governing Board approval of the Radio Interoperability Best Practices Master Report and Best Practice documents 1,2,3.





Spectrum Management Committee

Don Root, Chair Charlie Sasser, Vice Chair



- FCC Decisions
 - Opened Public Safety interop channels to Railroad Police
 - Set analog FM as mode for interop channels at VHF, UHF and 800 MHz bands
 - Set P25 CAP compliance as requirement to market or sell equipment (testing details under discussion)
 - Clarified emission mask on 800 MHz NPSPAC channels to minimize adjacent channel interference.
 - With FirstNet, decided process, funding and deadline for 700 MHz NB incumbents to vacate 700 MHz BB spectrum
- NPSTC Documents Completed
 - T-Band Update Report, May 2016
 - 700 MHz Reliability and Interoperability Position, October 2016

NPSTC Filings with FCC in 2016

Page 1 of 2



Date Filed	Торіс	Type of Filing	
During 2016 NPSTC Submitted 17 Filings on a Wide Range of Issues			
12/07/16	IMSA 6.25 Waiver Request	Ex Parte Letter	
11 <mark>/22/16</mark>	Conditional Lic/other issues	Comments	
11 <mark>/16/16</mark>	Part 20 Rule Changes	Reply Comments	
11 <mark>/08/16</mark>	AEP Waiver Request	Reply Comments	
10/26/16	P25 CAP	Comments	
10/03/16	700 MHz Reliability/Interop	Position Paper	

NPSTC Filings with FCC in 2016 Page 2 of 2



Date Filed	Topic	Type of Filing
9/12/16	Outage Reporting	Reply Comments
8/ <mark>11/16</mark>	Noise Floor	Comments
7/22/16	5.9 GHz DSRC	Reply Comments
7/ <mark>13/16</mark>	Interference Portal	Letter
7/8/16	4.9 GHz	Ex Parte (#2)
7/7/16	5.9 GHz DSRC	Comments
6/ <mark>21/16</mark>	Ligado 1675-1680 MHz	Comments
6/ <mark>3/16</mark>	T-Band Update Report	Ex Parte
5/ <mark>23/16</mark>	Ligado 1545-1555 MHz	Comments
4/ <mark>21/16</mark>	4.9 GHz	Ex Parte (#1)
1/13/16	Wireless Emergency Alerts	Comments

communications and interoperability through collaborative leadership.

Anticipated Issues for 2017



- 4.9 GHz
 - Expect Comprehensive FCC NPRM
 - Anticipate extensive deliberation/work to address issues
 - Multiple tiers/prioritization: specifics and timing
 - Shift from jurisdictional to site-based licensing
 - Frequency coordination- traditional and dynamic
 - Band plan adjustments and technical requirements
 - Grandfathering of existing systems
- T-Band- serve as SME to support NPSTC members
- Follow-up on P25 CAP, GPS protection, 5.9 GHz
- Assist UAS Working Group on spectrum
- Other issues as they arise, e.g., Cybersecurity NOI

Anticipated Issues for 2017



- FCC Notice of Inquiry (NOI) on Cybersecurity for 5G
 - NOI released December 16, 2016
 - Comments due 90 days after Fed. Reg. publication
 - Paragraphs 43 and 44 are specific to public safety
 - Public safety usage (e.g., sensors, IOT) for 5G
 - Security implications of linking/integrating 5G networks and public safety systems
 - Identity, Credential and Access Management (ICAM) issues
 - Need for standards development re any public safety 5G technologies and services
 - Propose a new Task Force to assist Committee with NOI
 - Charlie Sasser has volunteered to chair the Task Force
- Action Needed: Governing Board to approve Task Force





Governing Board's Appointed Delegates

FCC Task Force on Optimal PSAP Architecture Bob Brown, IT Manager State of New Hampshire



- Two year task force organized by the FCC
- Goal was to examine optimal PSAP system and network configurations in terms of emergency communications efficiency, performance, and operations functionality.
 - Emphasis in original charter was to report on consolidation options for the 6,800 PSAPs nationwide.
- Membership included:
 - Robert Brown, State of New Hampshire (NPSTC)
 - Jay English, APCO
 - Brian Fontes, NENA



- Three Working Groups were formed
 - WG #1: Cyber Security
 - WG #2: NG911 Architecture
 - WG #3: Governance and Funding
- Reports were released in 2015 and 2016
- 2015 Final Report Summary
 - WG #1: Education on cyber issues and staffing models.
 Leveraged existing work.
 - WG #2: Emphasized "one size does not fit all" and that consolidation decisions are complex. Focus on planning and transition from legacy to NG911.
 - WG #3: Identified the need for a sustainable funding model, noted diversion of 911 funds by states, and problems with funding two systems during a transition to NG.



- 2016 Final Report Summary
 - WG #1: Further refined the EC3 concept (Emergency Communications Cybersecurity Center), provided cost projections and reviewed Information Sharing Environments (ISE) for cyber coordination.
 - WG #2: Leveraged the NG911 Implementation Maturity Model, created by the National 911 Program Office. Created an NG scorecard allowing self assessment of an agency's readiness. Reviewed early adopter case studies for NG911 ESInet implementation.
 - WG #3: Identified common costs for NG911 and further defined specific examples and various models. Identified other potential revenue sources.



- 2016 Final Report Summary (continued)
 - Task Force has completed their work
 - The FCC has recommended that Congress provide necessary legislation to support a nationwide transition.





Liaison Update

University of Melbourne Centre for Disaster Management and Public Safety (CDMPS) Ralph Haller, NPSTC Chair





NPSTC Strategic Plan Progress Report

Lloyd Mitchell, Executive Committee Task Force Chair Scott Bryant, Scott Bryant and Associates



- Participant Questionnaire
- Governing Board Member and Staff Interviews
- Strategic Planning and Decision Making Session

Participant Questionnaire Results



- Questionnaire completed by over 400 participants
- Large majority (98%) very satisfied or satisfied with NPSTC overall
- Most participants rated NPSTC services as excellent or good
- Large majority (95%) would recommend participation in NPSTC to others
- Large majority (95%) think NPSTC has been effective in addressing and resolving issues facing public safety communications
- Most (90%) think NPSTC has the right composition of member organizations to be effective



- Completed interviews with 32 Governing Board members, alternates, and support staff
- Perspectives collected regarding:
 - Key Accomplishments over the past five years
 - Current strengths? (What is working well?)
 - Key challenges (What is not working well?)
 - Future focus (Ideal future visions / future state?)
 - Primary challenges or barriers future visions / future states
 - Most effective strategies / key strategic initiatives
- Summary of perspectives and key strengths, challenges and future focus areas being developed



- Planned for March Governing Board meeting
- Review and discuss participant survey results in more detail
- Review and discuss Governing Board members and staff interview results
 - Key NPSTC accomplishments
 - Current NPSTC strengths
 - Current NPSTC challenges
 - Future focus and priorities
 - Effective strategies / key strategic initiatives
- Update NPSTC Strategic Plan roadmap / game board





New Business



- IWCE Meeting Friday, March 31, 2017
- Washington, DC Wednesday, September 6, 2017
- Adjourn