LUKAS, NACE
GUTIERREZ & SACHS
CHARTERED
1650 TYSONS BOULEVARD, SUITE 1500
MCLEAN, VIRGINIA 22102
703 584 8678 • 703 584 8696 FAX
WWW FCCLAW COM

RUSSELL D LUKAS*
DAVID L. NACE*
THOMAS GUTIERREZ*
ELIZABETH R. SACHS*
GEORGE L LYON, JR
PAMELA L. GIST*
DAVID A LAFURIA
B. LYNN F. RATNAVALE*
TODD SLAMOWITZ*
STEVEN M CHERNOFF*

CONSULTING ENGINEERS
ALI KUZEHKANANI
LEROY A. ADAM
LEILA REZANAVAZ
SUMEET K. BHALOTIA

OF COUNSEL
JOHN J MCAVOY*
J K HAGE III*
LEONARD S. KOLSKY*
HON. GERALD S. MCGOWAN*

*NOT ADMITTED IN VA

Writer's Direct Dial
(703) 584-8663
lsachs@fcclaw.com

October 27, 2005

VIA ELECTRONIC FILING
Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

RE: The Development of Operational, Technical and Spectrum Requirements for meeting Federal, State and Local Public Safety Communications Requirements through the Year 2010
WT Docket No. 96-86
Ex Parte Presentation

Dear Ms. Dortch:

On behalf of the Coalition for Wideband Data Deployment ("CWDD" or "Coalition"), we wish to supplement the record in the above-identified proceeding with the minutes of the June 14-15, 2005 National Public Safety Telecommunications Council ("NPSTC") Governing Board Meeting ("June Meeting"). One of the key outstanding issues in this proceeding is whether the FCC should adopt its tentative conclusion, a conclusion then endorsed by NPSTC, that all 700 MHz wideband radios, including those intended to operate on channels designated for General Use rather than Interoperability, be required to conform to the proposed Scalable Adaptive Modulation ("SAM") interoperability standard.

The CWDD urged the FCC not to impose a SAM standard on 700 MHz General Use spectrum. It argued that there was no record evidence of an identified need for wideband data interoperability. It stated that the SAM standard proposed was inherently too costly and complex for all but a limited number of public safety organizations and that its adoption would discourage the use of any 700 MHz wideband spectrum by most potential applicants.

More recently, NPSTC itself determined to revisit this issue. It was decided at the June Meeting that a focus group would be created "to further examine the pros and cons of the issue [as to whether NPSTC should retain its prior position on wideband data standards] and make

recommendations on what NPSTC's position should be." NPSTC Minutes at p. 12. It is important that the FCC delay any decision on this aspect of its proposed rules until NPSTC has completed its further analysis and communicated its position to the FCC.

Kindly refer any questions or correspondence regarding this matter to the undersigned.

Very truly yours,

/s/

Elizabeth R. Sachs

Attachment

cc: Michael J. Wilhelm
Roberto Mussenden

NPSTC
National Public Safety Telecommunications Council

The Collective Voice of Public Safety Communications

MEMBER ORGANIZATIONS

American Association of State Highway and Transportation Officials

American Radio Relay League

American Red Cross

Association of Public Safety Communications Officials - International

Forestry Conservation Communications Association

International Association of Chiefs of Police

International Association of Emergency Managers

International Association of Fire Chiefs

International Association of Fish and Wildlife Agencies

International Municipal Signal Association

National Association of State Emergency Medical Services Directors

National Association of State Foresters

National Association of State Telecommunications Directors

LIAISON ORGANIZATIONS

Federal Communications Commission

Federal Partnership for Interoperable Communications

Telecommunications Industry Association

US Department of Agriculture

US Department of Justice

NIJ CommTech Program

US Department of Homeland Security

FEMA

SAFECOM Program

US Department of Interior

68 Inverness Lane East, Suite 204
Englewood, CO 80112-5108
PH: 303-649-1843
FAX: 303-649-1844
Toll free: 1-866-807-4755
www.NPSTC.org
NPSTC@highlands-group.com

National Public Safety Telecommunications Council Governing Board Meeting San Antonio, Texas June 14-15, 2005

Opening Remarks—National Public Safety Telecommunications Council (NPSTC)

Vincent Stile, Chair, NPSTC, welcomed NPSTC members and meeting attendees to the quarterly meeting of the NPSTC Governing Board, held on June 14-15, 2005, in San Antonio, Texas. The NPSTC March Governing Board Meeting Report was approved as amended to add the attendance of Ralph Haller at the meeting. The NPSTC First Quarter 2005 report was corrected to change an incorrect reference to Region 5 on page two of the report.

Mr. Stile announced the creation of a new NPSTC Committee that will focus on Regional Planning Committee (RPC) activities. He asked for an official motion from the Governing Board to support the new RPC Committee. George Carbonell, American Association of State Highway and Transportation Officials (AASHTO) so moved and Alan Caldwell, International Association of Fire Chiefs (IAFC), seconded the motion, which unanimously passed. The Chair will be Richard Reynolds, National Association of State Telecommunications Directors (NASTD) and Chair, Region 28.

Presentations

SAFECOM Update, Tom Coty, Department of Homeland Security (DHS) Science and Technology (S&T)

Generated by feedback from the public safety community at the 2003 San Diego, California, SAFECOM/CommTech conference and following the philosophies of the SAFECOM Interoperability Continuum, SAFECOM is working to accomplish the following strategic initiatives.

- Complete the statistical baseline measurement of public safety communications interoperability in the U.S. that will establish a baseline against which progress can be measured. The survey will identify areas of improvement and steps to achieve interoperability objectives, focus interoperability improvement efforts, and direct funding for public safety communications. The actual survey is in development now.

- Accelerate development and adoption of voluntary consensus standards. The SAFECOM Standards Organization works to assess user needs and requirements and institutionalize the process of updating those requirements, identify existing standards and opportunities for standards development, and engage industry to promote the development of standards-compliant equipment.

- Continue to develop grant guidance that incorporates public safety recommendations and feedback.

- Develop a variety of replicable models through the Regional Communications Interoperability Pilots (RCIP) that can be adapted nationwide. Efforts are ongoing in Nevada and Kentucky, building on methodology successfully used in Virginia, but adapting to individual state differences.

- Advise the White House on public safety spectrum needs per the Presidential Memorandum.

- Develop interactive applications accessible through Public Safety and Security Institute of Technology (PSITEC's) web portal, the SAFECOM portal, the Federal Programs Database, the Interactive Interoperability Continuum, and the Comprehensive Grants Database.

- Assess current models of technical assistance. Create standardized guidelines and partner with providers to implement standard criteria, working with the Interoperable Communications Technical Assistance Program (ICTAP) located in the DHS Office of State and Local Government Coordination and Preparedness (SLGCP) (formerly the Office for Domestic Preparedness (ODP).

National Institute of Standards and Technology (NIST), Office of Law Enforcement Standards (OLES) Update, Dereck Orr

NIST OLES supports the public safety community and federal agencies in the areas of standards development, testing and evaluation, research, and technical documents. NIST OLES is supported by DHS's SAFECOM, the Department of Justice (DOJ's) COPS Program, and the National Institute of Justice (NIJ's) CommTech Program. For the last 10 years, NIST OLES has leveraged the engineering expertise at the National Telecommunication and Information Administration (NTIA's) Institute of Telecommunication Sciences (ITS), which serves as the OLES technical lead.

Key initiatives include the Public Safety Statement of Requirements (SoR), Public Safety Architectural Framework (PSAF), acceleration of P25 standards, technical requirements and guidelines for federal grants and procurement contracts, and a propagation study of standing and collapsed buildings. Version 1.1 of the SoR is complete and being vetted through SoR Working Group; Version 2.0 will begin to focus on quantifying functional requirements. The PSAF will comprehensively describe what the overall structured approach is to achieve a system-of-systems for nationwide interoperability and the Interface Standards define how the elements of the PSAF will work together, that is how interoperability through a system-of-systems approach will be achieved.

NIST and its federal partners are working with the Project 25 Steering Committee to identify set timelines for the publishing of the inter-RF-subsystem interface, the fixed station interface, and the console interface. If the current TIA process is unable to meet the immediate needs of the Steering Committee and the federal programs, an alternate process is being developed that will lead to interim technical requirements and guidelines until the P25 standards are published. These technical requirements and guidelines will be applied to federal grants and procurement contracts. An MOU is currently being developed with the P25 Steering Committee to articulate the roles and responsibilities of the various parties. Because the P25 Steering Committee knows it will not meet the TIA's October vote, the fixed station interface has already gone to a de facto standards process, which will allow testing before it is voted on and allow it to be used as a technical requirement.

NIST OLES is also developing a conformance equipment testing program to validate the performance of public safety telecommunications equipment. ITS tested two radios identified as TIA 102 compliant that demonstrated great differences in the quality of the receivers, especially in the wideband analog mode. Grant

guidance will require P25 products purchased with federal funds to meet the requirements of the conformity assessment program through third party testing to evaluate compliance to requirements of the P25 Standard by accredited independent laboratories. The test results will be made available to public safety.

NIST is researching techniques to enhance the propagation of RF signals in a collapsed building environment. Over the last 2 years, NIST has been performing propagation measurements in buildings throughout the country in partnership with public safety agencies. Partnering with a demolition company, NIST wired three major buildings as they were being prepared for implosion and performed propagation measurements before, during, and after the implosion took place to measure the effect that this had on signal propagation.

CommTech Update, National Institute of Justice (NIJ), Office of Science and Technology (OS&T), Joe Heaps

The CommTech mission is to assist state and local public safety agencies to effectively and efficiently communicate with one another across agency and jurisdictional boundaries. CommTech's focus is on research and development of emerging technologies required for interoperable communications including Software Defined Radio (SDR), Cognitive Radio (CR), Voice over Internet Protocol (VoIP), advanced wireless data, and in-building location and communication. CommTech also provides funding for NPSTC involvement in the SDR Forum's Public Safety Interest Group (PSIG) and for the CAPRAD [Computer Assisted Pre-coordination Resource and Database] System.

CommTech tests and evaluates technology platforms to provide unbiased information to the public safety community, conducts functional reviews, performs technical evaluation/testing, performs operational evaluation/testing, and publish T&E reports on products and operational test results.

CommTech sponsors pilot programs to provide a demonstration of cutting edge technologies in an operational environment to the law enforcement community and works closely with SAFECOM and NIST OLES on standards development that will improve technology availability, cost, reliability, and interoperability. CommTech participates in conferences and reaches out to the community through publications, including Executive Technology Briefs (ETBs), on telecommunication issues. The program is guided by the advice of the CommTech Technical Working Group and the Law Enforcement and Corrections Technology Advisory Council (LECTAC). CommTech's revised solicitation process for grants begins with 7-10 page concept proposals that result in select invitations for full proposals that are reviewed by solicitation panels.

National Law Enforcement and Corrections Technology Center (NLECTC) System, NIJ-OS&T, Mike O'Shea,

NIJ is DOJ's research, development, and evaluation agency with two major responsibilities—behavioral research and physical science research and technology assistance. The Office of Science and Technology identifies public safety requirements for new technologies, especially at the state and local level; finds, researches, develops, and demonstrates new technologies and new applications to existing technologies, introduces promising new technologies to public safety, and provides technical and information assistance to public safety agencies at all levels in the area of technology. OS&T's program focuses on the following:

- Communications and Information Interoperability
- Less-than-Lethal Technologies
- Critical Incident Technologies
- Facial Recognition and Biometrics
- Vehicle Stopping Technologies
- Standards
- Forensics Sciences
- Cybercrime
- Border Technologies
- Learning Technologies

- Homeland Security
- Safe Schools

OS&T accomplishes much of its mission through its regional assistance centers and specialty centers,the National Law Enforcement and Corrections Technology Center (NLECTC) System. Known as an honest broker, the NLECTC System focuses on the following: Technology information dissemination, technology introduction and demonstrations, technology testing and evaluation, science and engineering advice and support, capacity building and training assistance, technology commercialization, and needs identification. For more information on NLECTC and on NIJ's programs, visit www.justnet.org

CAPRAD Update, NLECTC-Rocky Mountain, University of Denver, Gene McGahey

Recent CAPRAD expansion and enhancement work has focused in four main areas: Preparation for the first 700 MHz application, which is expected to be from Independence, Missouri; the 800 MHz module; the SIEC module, which can automatically issue Memorandums of Understanding (MOUs); and the Assets Inventory module. The new look and feel of CAPRAD's website has been well received by the users.

Transition Administrator, Brian Cloar and Dave Buchanan

Dave Buchanan, Chair, Spectrum Committee, introduced Brian Cloar from the Transition Administrator (TA's) team for outreach efforts. The TA's Regional Prioritization Plan (RPP) provides a schedule, known as "waves," when NPSPAC regions will begin the reconfiguration process. A complete copy of the RPP and RPP Modification, the prioritization waves and the reconfiguration schedule is available at 800TA.org. Nextel is working to clear out the first 1-120 channels. Mr. Cloar asked that the RPC directors and Mr. Reynolds in his new role as Chair, RPC Committee, coordinate with and inform the TA of what's occurring in the various regions.

Some webinar training on the rebanding process will be available in the next few weeks. The TA will have a strong presence at the Association of Public Safety Communications Officials – International (APCO) conference. Guidance information on the website has been updated recently and will be continually updated as the TA learns more about the process. The TA is continually looking for new outreach opportunities.

Interoperability Committee, John Powell, Chair, and Ralph Haller, Vice Chair

SIEC Working Group, Don Root

Mr. Root proposed that NPSTC and the SIEC Working Group undertaking the following efforts. The NPSTC Governing Board or NSO would undertake the following initial actions.

- Validate the state-like entity as the appropriate planning vehicle in the 50 states and the trust possessions. Support or develop regional collaborations where they exist.
- Establish the SIEC Single Point of Contact (SPOC) within the NSO.
- Coordinate with other SAFECOM partners to ensure the SIEC message is consistent.

The SIEC Working Group would undertake the following actions.

- Identify the "legitimate" SIEC-like entity in each state.
- Work with stakeholders to gain concurrence for the NCC's recommendation that SIECs be responsible for all interoperability spectrum planning in their area.
- In conjunction with the SAFECOM Program, establish a program to further the "street-level" interoperability planning goals of NPSTC and SAFECOM. In the first phase, hold a national meeting to kick off the effort, followed by a recurring series of four to six regional meetings held around the country.

In the second phase, provide a series of forums at, or in conjunction with, the annual conferences of the member associations of NPSTC.

- Work to provide a common national SIEC database structure to store planning documents and system information, and support SAFECOM's Interoperability Portal project.
- Assist the state-like entities to formally establish SIECs.
- Develop and promote model state interoperability plans and collaborative processes. As the "Collective Voice of Public Safety Telecommunications," NPSTC should be the organization promoting examples of statewide plans and governance processes, in conjunction with the SAFECOM Program.
- Advocate for the inclusion of SIECs in Federal interoperability grant guidance as a review tool for State Administrative Agencies (SAAs) and Urban Area Security Initiative (UASI) cities.

Discussion: Discussion focused on the need to include regional needs and committees working on interoperability under the guidance of or with statewide committees. Although NPSTC sees the state coordination body as the appropriate "senior" planning vehicle for interoperability, NPSTC recognizes the need to support efforts in regional planning areas like the National Capitol Region, through the encouragement of continued collaboration among the affected SIECs. Other additions to Mr. Root's original proposal included the need for a portal to coordinate data and tools and the need to reach out to the public safety community to encourage concurrence on the DHS Office of State and Local Government Coordination and Preparedness (SLGCP) (formerly the Office for Domestic Preparedness (ODP)-mandated Tactical Interoperable Communications (TIC) planning with SIEC planning and funding. [See below for more information on TIC.]

Action Items: The Governing Board approved Mr. Root's report on SIEC activities and will follow on with support issues at the NSO, including funding.

DHS Grant-funded Interoperability Activities, John Powell

DHS is requiring that all FY05 UASI grantees develop a plan to achieve tactical interoperability by September 30, 2005. That date has been pushed to May 2006. Grantees must test the plan within 1 year as part of the cycle of multi-jurisdictional exercise activities required for the DHS Improvised Explosive Device (IED) scenario. For the purposes of this DHS requirement, tactical interoperable communication is defined as the rapid provision of on-scene, incident-based mission-critical voice communications among all first-responder (EMS, fire, and law enforcement) agencies, structured within the framework of the National Incident Management System (NIMS) model. Tactical interoperable communications must be rapidly deployable at any time—24/7—and should be fully operational within an hour of an incident. For the first time, DHS will have subject matter experts (SMEs) review the TIC Plans.

DHS is also offering specialized commercial equipment assistance to small law enforcement agencies through an innovative direct transfer program—the Commercial Equipment Direct Assistance Program (CEDAP). One of the central goals of the program is to provide equipment for jurisdictions that cannot otherwise afford to purchase state-of-the-art equipment to assist them in their homeland security missions. Recipients will be able to receive selected equipment items and training assistance. Agencies can request equipment for communications interoperability, information sharing, chemical detection and sensor devices, and personal protective equipment. Currently ACU 1000s will be distributed to a number of sites.

DOJ has just issued Office for Community Oriented Policing (COPS) grant invitations. Due to complaints, the application window timeframe is longer. Key issues include planning and regional approaches. There is a $6 million cap for large jurisdictions and $3 million for smaller jurisdictions. It was noted that inter-governmental applications will have a priority when clearly illustrating cooperation among political jurisdictions and providing a good interoperability plan.

Project MESA Working Group, Jeff Bratcher and Craig Jorgensen

Project MESA held a meeting on April 13-15, 2005, in San Diego, California, hosted by Quaalcom. The major effort is still focused on harmonizing the U.S. and European SoRs. Mr. Bratcher is chairing the Technical Services Group, which is focusing on technologies, and will try to input simulation efforts ongoing through TIA TR8.8. Project MESA will have a demonstration at the upcoming APCO meeting. The next meeting will be held in Scotland, tentatively scheduled for the second or third week in October. For more information on Project MESA, see http://www.projectmesa.org .

ITU Working Group, Dick Shrum (John Powell reporting)

ITU's Working Party 8A, which addresses land mobile radio (LMR), met in Geneva in April. Working Party 8F, which addresses cellular issues, also met and is hoping to finalize their software radio. The next meeting will be held September 22-28 in Geneva, Switzerland. There has been a major shift in the Working Plan's workplan to an ad hoc group approach that differs from the previous SDR Forum-led correspondence group approach. In consequence, SDRF has been asked to defer its correspondence group leadership until further notice and there is a high probability that completion of the report by WP 8A will be deferred to early 2006. Overall the SDRF lead in developing a complete report has been deferred until the plans and objectives of the administrations become clearer.

The implications for SDRF and NPSTC will be an increased priority on preparation and submission of the public safety annex and of major input to the regulatory implications chapter. Details, schedules, and further work areas will be discussed and decided next week at the SDR Forum meeting in Washington, D.C.

Systems Interconnect Working Group, Phil Harris (John Powell reporting)

There has been much discussion on licensing issues as a number of gateways are being set up around the country. All function as relay stations. The issue of what appropriate station class—base station or repeater station—has arisen. Marine and aviation interconnects are also unresolved. The licensee is always responsible for the activity of that license and must monitor it.

Border Area Interoperability, Dave Buchanan, Kevin Kearns, and Bob Schlieman

The FCC has initiated negotiations with Mexico on the rebanding issue. Because there is no interoperability between the two countries in the NSPAC band, this is not an issue. In Canada, there is nothing new to report regarding rebanding issues at this time. Canada is reviewing the issue and will meet in the fall 2005. The U.S. State Department has indicated that they hope to have the 700 MHz agreement signed this month. Mexico has indicated they are interested in a 50/50 split regarding 700 MHz and discussions are ongoing.

Software Defined Radio (SDR) Working Group, Fred Frantz

The Software Defined Radio Forum (SDRF) Public Safety Interest Group (PSIG) is assembling the responses to the Public Safety RFI and is working on the report to find areas of concurrence. A first draft has been developed that falls into three areas—benefits and values of SDR to public safety; considerations for implementations including strategy of SDR deployment, standards, role of cognitive applications, critical enabling technologies, and security issues; and cost trade offs, economic models, and business considerations. Recommendations and next steps will complete the report.

Although there was a meeting of SDRF in Singapore on April 8-21, 2005, no one from SDRF could attend. China has converted almost entirely to cellular use. Ms. Ward asked if there is enough representation from NPSTC at those meetings. Mr. Frantz said NPSTC needs more representation. The next SDRF Meeting in the U.S. will be held June 20-23 in Washington D.C. For more information, see http://www.sdrforum.org .

Sean O'Hara is attempting to revitalize the SDRF Cognitive Radio Working Group, which has been inactive in the recent past.

Action Items: Identify additional public safety representatives/contributors for SDRF activities. Finalize PSIG RFI storyboards.

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

General Committee Actions

Harlin McEwen, Vice Chair, NPSTC, reported that Senator McCain was to introduce legislation today (June 15, 2005) requiring a date certain for TV clearing of 700. The APCO Government Affairs Office has said there is a strong Republican movement in the House leadership to waylay the McCain Bill. Joe Hanna, Directions, reported that the leadership of House has called a meeting for this afternoon to pressure Chairman Barton to delay markup of the bill.

Mr. McEwen also reported on a bill in the House, Preserving Innovation in the Telecomm Act of 2005, HR2726, which deals with the problem between commercial service providers and local governments who want to provide WiFi networks in their cities. This service and access to this unlicensed spectrum would also benefit public safety. The bill would prohibit local government from providing a free or for-fee service in competition with a commercial provider. Because of the vagueness of the language, there could be constraining ramifications for public safety that should be studied further. Bob Gurss, APCO, said based on the language of the bill he does not think there will be any ramifications for public safety. Mr. Buchanan said the Broadband Working Group would further research the issue.

In other regulatory responses, the Spectrum Management Committee prepared the NPSTC response to the White House request for information on public safety spectrum and also prepared the NPSTC filing requesting the 900 MHz available for paging spectrum.

Action Item: Provide recommendations on HR2726.

Regional Planning Committee (RPC) Working Group, Dave Buchanan

The Governing Board voted to form a new RPC Committee chaired by Richard Reynolds, who is chair of Region 28. Ron Mayworm, Region 49, volunteered to assume the role of vice chair. The new Committee will perform major outreach effort to the 55 regions, focused on encouraging RPC participation in NPSTC, with support from NPSTC. RPCs and users may be requesting waivers of wideband channel interoperability technology requirements. NPSTC needs to review this issue, which is still the subject of debate, and develop a response position.

Region 8 will file a Petition for Reconsideration (PFR) asking for RPC authority over any additional 800 MHz public safety spectrum that will be made available after rebanding. The PFR may become a joint filing with Region 8 and NPSTC filing as most RPCs seem to be in agreement with this request.

Discussion: Mr. McEwen said there should be one main filing from NPSTC, with a separate filing from Region 8. Mr. Gurss agreed, saying that if the PFR comes from one or two regions, the FCC will ask whether the other regions agree with issue. The PFR needs to come from a national group with the regions supporting it rather than the other way around. Mr. Buchanan suggested the new RPC Committee needs to reach out to Region 8 and encourage them to allow NPSTC be the main filer with support from Region 8. Bob Schlieman, State of New York, agreed that the louder voice would be the national association and that he would convey that message to Region 8.

Mr. Mayworm noted that in the 800 rebanding process, there will be new channels that will be vacated but there is no plan as to how the new channels will be used. Mr. Buchanan said that issue was addressed at the last meeting and NPSTC does support that.

There was discussion of the 860-861 channel users, who have very little in the way of guidelines on deciding to move or not move out of the expansion band. Mr. O' Hara suggested developing a one-page bullet list for these users. Ron Haraseth, APCO, said he would ensure the list is on APCO's 800 Alert website. Mr. Hanna said that NPSTC's guidance, not guidelines, would be helpful to the community although it is outside of the purview of the TA.

At the last meeting, there was discussion regarding the opportunity provided by rebanding to do some repacking in California. The testbed could not be accomplished through NPSTC, however, because of funding issues. Mr. Root says that the State of California cannot do it either because of the time limitation that would make it impossible to develop, review, and adopt a plan and accomplish the repacking.

Action Items: Coordinate filing with Region 8 and other regions. Mr. Reynolds will follow up on the Region 8 filing that is being distributed within RPC community. Mr. O'Hara will develop a one-page bullet list for NPSTC's website and for APCO's 800 Alert website.

Broadband Working Group, Sean O'Hara

The 4.9 GHz order has been filed in Federal Register; Mr. Buchanan said that seven RPCs have filed 4.9 guidelines. Mr. O'Hara reported that the RPC *4.9 GHz Guidelines* are complete. Dave Eierman and Bette Rinehart, Motorola, have developed *4.9 GHz Channel and Deployment Guidelines* that will go out to NPSTC members via the listservs for review and comment. Mr. Eierman reviewed the two documents—a White Paper submitted in January 2005 on 4.9 GHz public safety broadband spectrum, with an overview of technical rules and licensing instructions, a discussion of military training usage of spectrum just below 4.9 for Cooperative Engagement Capability (CEC) operations, and a list of radio astronomy site locations, and a new document, Appendix D. Appendix D discusses the aggregation of channels as the channels are defined by the FCC Rules that follows a proposal made to TR8.8 as to how to aggregate the channels and including a possible frequency plan.

The Working Group heard presentations on the 4.9 GHz testbeds in Los Angeles County, California, and Pinellas County, Florida. Mike Doble, Proxim, reported that the 4.9 GHz demonstration in LA County was a very successful event with over 258 attendees, 16 presentations, and 24 exhibits on 4.9 products. He expects to get test result from vendors on airborne to ground communications and interference potentials that will be on the website shortly. Many end users participated in exercise.

Larry Trobough, Technology Research & Consulting, Inc., reported on the 4.9 GHz project in Pinellas County, Florida, to create an interoperable testbed that will allow local, state, and federal agencies to communicate using a bridged 4.9-5.9 GHz self-healing mesh network. The operation of the network on a day-to-day basis would be run by local public safety. However, one of the primary reasons for this project is to develop a national framework for quickly mobilizing resources in the event of a terrorist event. From a global

perspective, the intent is to operate voice, data, and video services simultaneously. The testbed will unfold in three phases: Phase 1, currently funded and scheduled to last 18 months, will assemble a 10-square mile testbed within Pinellas County for interconnection of local, horizontal agencies. Phase 2 will enhance capabilities to the region and state, and Phase 3 will include federal resources. The tasks planned for Phase 1 include developing a mission needs statement, accomplishing a spectrum analysis, creating the network architecture design, and accomplishing a gap analysis. The team will then model the network, build the testbed, demonstrate/evaluate the concept network architecture, and assemble the final report. In discussion, the Governing Board agreed that this testbed may be moving in different directions than originally was envisioned. NPSTC will monitor the testbed more closely

Jeannie Benfaida, FCC, encouraged Mr. Doble and Mr. Trobough to share any test data or other information with the FCC, asking that information be shared via email to Ms. Benfaida and Tim McGuire.

Andy Thiessen, ITS, noted that TIA TR8.8 is making progress on simulation methodology convergence. ITS has a draft report on the modeling of the law enforcement scenario of the SoR that ITS will provide to NPSTC when it is published. The timeline calls for completion of the four main simulations of the SoR by the fall. Mr. Thiessen also asked that the Pinellas County testbed information be provided to TIA TR8.8 as with the test data from the Los Angeles County testbed. TR8.8 has done a great deal of modeling that is available to public safety and that could assist the Pinellas County project

The Working Group heard broadband applications presentations from LeapFrog and PacketHop. LeapFrog demonstrated the web-based PSG2 [Public Safety Generation 2], which delivers real-time streaming video, voice, text, and data where it's needed. PSG2 pinpoints the locations of officers and vehicles. PSG2 needs only a web browser on the mobile devices to access the system, uses web technologies for ease of maintenance, uses off-the-shelf mobile devices such as PDAs, and operates with standard WiFi.
For more information, contact Dr. Shao Yuan Hsueh Ph.D, President, Leapfrog Technologies at hsueh@leapfrogtech.com.

PacketHop TrueMesh™ networking software establishes the framework for highly mobile and rapidly deployable wireless broadband communication whenever and wherever first responders need it. It features real time multicast video, offers resource tracking via high resolution maps using standards-based GPS, multimedia instant messaging, and whiteboarding. PacketHop Aware™, a server-less multimedia applications, seamlessly integrate real-time multicast video, resource tracking, instant messaging and whiteboarding capabilities. PacketHop's autonomous mobile mesh networks are standards based and infrastructure optional. For more information, contact Gregg Rowland, Vice President, PacketHop, at www.packethop.com.

In response to some issues raised by the presentation, Joe Heaps, NIJ, asked whether there is data to demonstrate that voice traffic really goes down when data network is available. Mr. Thiessen said that the data modeling IT is doing will help answer that question.

Action Items: Follow status and scope of the Florida testbed more closely.

Recommendations: Mr. Buchanan made a recommendation that the Governing Board fold the TR8.8 Working Group into the Broadband Working Group to reflect the similar effort and volunteer composition of both groups. The recommendation was approved by the Governing Board.

TR8.8 Working Group, Andy Thiessen

TR8.8 held very productive meetings in Boulder, Colorado, last week, and is working to develop convergence between the simulation modeling of Motorola and SAFECOM to enable apple-to-apple comparisons. As

noted above, TR8.8 will become part of the Broadband Working Group to reflect the similar interests and compositions of the group.

Border Issues Working Group, Dave Buchanan and Sean O'Hara

The FCC has made contact with Mexico on rebanding issues but not much progress has been made to date. There have been ongoing talks with Regions 3 and 5, Southern California and Arizona, and Nextel.

Canada has agreed to clear 63 and 68 in the 700 MHz band. The 700 MHz agreement with Canada should be signed by the end of the month, according to the State Department, with respect to those two channels. Regarding 800 MHz, Canada is still reviewing the situation and there may be new information in the fall. New York State is generating a white paper on Canadian border rebanding plans.

VHF Rebanding Working Group, Floyd Ritter

Mr. Haller said the Forestry Conservation Communications Association (FCCA) is opposed to VHF rebanding and would like to undertake a region-by-region, state-by-state approach to implement this effort. There are many entrenched, incumbent systems in that band particularly in cities where rebanding would have a negative impact. The Working Group will research the issue further and make recommendations.

700 MHz Advocacy Working Group, Stu Overby

The Working Group discussed recent developments in the issue of 700 MHz Clearing/ DTV transition. It is clear that there is a strong need for advocacy now by public safety representatives via visits and calls. The broadcasting industry has a very strong lobbying effort and there is a risk that DTV clearing will be delayed. David Otey, Society for Broadcast Engineers (SBE), commented that broadcasters do indeed have a strong lobby in the National Association of Broadcasters (NAB) and that the Consumers Electronics Association (CEA) is trying to delay rules mandating the DTV transition because they have an interest in keeping analog receivers in the marketplace. Mr. McEwen said he and others recently met with representatives of The Walt Disney Company (ABC) who also agreed that as long as manufacturers continue to push cheap analog television set, the DTV action will be delayed. The Working Group will coordinate some of its efforts with the SBE on TV clearing and on unlicensed devices, such as Low Power TV (LPTV) and the thousands of unlicensed wireless microphones operating in that band. Mr. Overby said NPSTC needs to establish public safety's position, which is that all of those devices are secondary devices. Mr. Overby also has contacts with Shure and is discussing the issue with them.

Regarding the dates by which TV sets must have DTV capability, the FCC issued a decision June 9 advancing the date for 25-36" TV sets to March 1, 2006, and proposing to advance the date for all sets to December 31, 2006. NPSTC will file comments supporting that date on the NPRM.

Working Group efforts on the Canadian perspective on 700 MHz/DTV, include a liaison with the Border Issues Working Group and attendance at the Radio Advisory Board of Canada (RABC) meetings. Mr. Eierman is reviewing technical documents and the Canadian proposal on LMTV shortspacing. A final draft of the white paper on Low Power TV/60-60 LPTV licensing was completed May 2 and forwarded for potential board action. The Governing Board approved a request to place the white paper on NPSTC's website.

NPSTC submitted joint comments with APCO to the FCC reaffirming the need for clearing current 700 and for additional spectrum. NPSTC affirmed its support of the FCC conforming 700 rules to those already in place for 800 MHz. The Working Group is researching the issue of wideband reserve and the two plus two guardbands. The issues include the amount of buffer needed between broadband and wideband, and between

broadband and narrowband; for the 2+2 Guard Band Spectrum, the questions include how it could best be used for public safety—as continued guardband or converted to broadband. If the latter course is followed, how can NPSTC protect public safety voice spectrum from public safety broadband. Broadband adjacent to narrowband voice could have less interference than adjacent to wideband, according to Mr. O'Hara. Mr. McEwen said NPSTC should devote further study to the issue. The wideband/broadband interference issue is highly technology dependent according to Mr. Eierman.

Action Items: NPSTC will file NPRM FCC recommendation to advance date by which TV sets must have DTV capability for 25-36" TV sets to March 1, 2006, and for all sets to December 31, 2006. Mr. O'Hara and Mr. Eierman will develop guidelines for public safety waiver requests on shortspacing by the next meeting. Mr. Overby will coordinate the activities of the 700 MHz Working Group with Mr. Otey, SBE, and in conjunction with the assistance of Mr. O'Hara, Mr. Schlieman, Mr. Buchannan, and Mr. Haller.

Technology Committee Report, Glen Nash, Chair, and Sean O'Hara, Vice Chair

Narrowbanding below 512 MHz Working Group, Ralph Haller

The Federal Register published Report and Order (R&O) on narrowbanding below 512 MHz on the morning of the Governing Board meeting. NPSTC has 30 days to file a Petition for Reconsideration (PFR). Mr. Haller will prepare a NPSTC response.

Security Working Group, Andy Thiessen

Mr. Thiessen reported that SAFECOM is releasing a research and development project on security issues. The initial focus will be on the security requirements of the Statement of Requirements (SoR), beginning with a search of the existing landscape of security solutions today against the requirements of the SoR and then performing a gap analysis.

Mr. McEwen recently published an article on 802.11 security in *Police Chief* magazine, which has been reprinted in its entirety in *spectrum*, NPSTC's newsletter. The GLOBAL Working Group has also built on the work of one of Mr. McEwen's sources at about.com to create a four-page brochure on the issue that will be placed on their website.

Region 8, New York City, has completed and filed their wideband/broadband security document with cross references into their applications matrix. The document is available on the server.

NCC Recommendations Working Group, Glen Nash

Since the last meeting, the FCC came out with 4th NPRMs to which NPSTC submitted comments. The 7th NPRM was published seeking to update the narrowband voice interoperability standards and establish standards for wideband data systems. The Committee enjoyed spirited discussion of wideband data standards. A number of groups were opposed to Scalable Adaptive Modulation (SAM) as the universal data standard.

DataRadio's Doug Smith made a presentation on Universal Simplified Architecture (USA), a practical solution for wideband data interoperability. The FCC has been requested to mandate a standard for and require that all 700 MHz device be capable of wideband data interoperability in spite of the fact that according to Mr. Smith, the public safety community has not decided what they hope to accomplish with wideband interoperability, no interoperable software applications have been identified, and security concerns remain to be addressed. Mr. Smith said the public safety community has not identified any genuine communications need in 4.9 GHz and data systems do not lend themselves to interoperability or standardization.

According to Mr. Smith, mandating a standard may lead to problems similar to P25—the technical complexities of P25 have resulted in high costs and stymied deployment. For interoperability to succeed, the community needs a practical approach that is technically simple and inexpensive and that fosters collaboration, re-use of implementation technology, uses open source, reference design, affordable and functional for low and high density systems, and is backed by multiple manufacturers. The most successful example of interoperability is the Internet. Based on open standards and no Intellectual Property Rights (IPR) attached to the standard, the Internet has enabled the connection of a multitude of different applications, executing on different software and hardware platforms, and communicating of non-homogenous networks. Another example of universality is the success of 802.11 technologies. Standardization and no IPRs have led to many implementations. The multitude of 802.11 solutions has bred competitiveness in the marketplace.

TIA-902/SAM was recommended by the NCC as an interoperability standard for 700 MHz public safety but Dataradio believes it is the wrong technology because it is complicated to achieve high data rates; impacts development and delivery costs; requires expensive RF components; and contains IPRs, which requires licensing for deployment, complicates development, and negates collaboration and re-use. USA is a two-phased approach provided mobile-to-mobile IP connectivity and Phase 2 provides an infrastructure connectivity mode.
Comments: Mr. Powell noted two issues: Dataradio's data rates would mean going to a lesser rate than was established earlier. Regarding standards, the FCC is requiring industry to use consensus-based standards or ANSI or ANSI-approved standards.

Mr. McEwen said that Dataradio is asking NPSTC to take a different position, which supports the NCC recommendation made 2 years ago, from the current NPRM on a data interoperability standard for 700 MHz. Mr. O'Hara said NPSTC should consider the viewpoints of others who have taken exception to the rule/opposed to SAM. Following discussion, Mr. Nash said the question before the Committee is: Should NPSTC retain its prior position on wideband data standards. The Committee will create a focus group to further examine the pros and cons of the issue and make recommendations on what NPSTC's position should be. NPSTC will be filing ex parte comments in the next couple of weeks. Mr. Buchanan recommended putting the question to a larger public safety group for comment. Mr. Nash asked Mr. Root, who accepted, to head the focus group. Mr. Buchanan, Mr. Thiessen, Mr. Carbonell, Mr. Schliemen, Mr. McGinnis, Mr. Merkle, Mr. Hinshaw, Mr. Middlebrooks, Mr. Overby, and Mr. Hofmeister will work under Mr. Root's guidance. The NPSTC NSO will put together a conference bridge and listserv to facilitate the discussion. There was a suggestion to include a representative of SAFECOM in the discussion as well regarding tying grant funding to standards and interoperability.

Action Items: Gain consensus position on data interoperability and 96-86 position through the work of the focus group that will be led by Mr. Root. Generate ex parte comments on 96-86.

VoIP Working Group, Jim Douglas

The Working Group discussed the status of VoIP user requirements in relation to the SoR. The first document developed lays the groundwork for requirements using P25 as an interface. The next step is the need to address VoIP user requirements for Version 2 of the SoR.

Action Items: Develop VoIP requirements documentation.

ARS Working Group, Don Root

There has been no forward motion regarding contact with ARRL at this point. In California, Mr. Root reported that he had met with San Diego Gas and Electric, which is using broadband over powerlines (BPL)

technology as a means to read meters and allow the consumer to monitor energy usage and adjust it through the Internet. San Diego is investigating doing a 1-square mile testbed. They are interested in working with public safety and in abating any interference issues.

Mr. O' Hara said that there has been a resolution in the House of Representatives, HR 230 introduced by Representative Michael Ross, Alaska, and legislation proposed in Nebraska banning the use of BPL in that state. Mr. Nash asked if NPSTC should comment on the legislation. Mr. McEwen suggested that NPSTC continue to be on the record with its position urging caution on this issue. Mr. Nash said NPSTC would forward copies of its past filings to the appropriate bodies.

Action Item: Submit NPSTC BPL filings to Representative Ross's office for reference material.

700 MHz Wideband Technologies Working Group, Sean O'Hara

Mr. O'Hara said the discussion and presentation of activities, review of assumptions, and data received to date will be tabled until the next meeting.

Paging Technologies, Dave Buchanan

NPSTC filed comments on two dockets with the FCC regarding the need for spectrum for digital paging and on the 900 MHz and is awaiting FCC response.

Surveying Equipment Working Group, George Carbonell

Mr. Carbonell discussed the impetus behind the formation of this new Working Group. The issue of the need for surveying equipment spectrum was generated when questions arose about sharing information from the road to the office. Sometimes surveyors leave the channels open on their equipment preventing others from using those channels. The group is looking at reserve channels and three of the wideband channels. Because it is unclear why surveyors would want wideband channels or what their technical requirements are, Mr. O'Hara suggested that Mr. Carbonell contact the vendors for a conference call or presentation on the issue. He also suggested that NPSTC should be careful about setting precedents by allowing a secondary use for interoperability channels that could have unforeseen implications in other areas.

Mr. Haller suggested that the public safety community must be careful about setting up a channel for nationwide use because the commercial/private community will interfere with the usage. Mr. Nash said that because the public safety surveying sector is so small the private sector will probably have to be part of the solution to encourage the manufacturers.

Action Item: The NSO will set up a teleconference with the Working Group and vendors. Mr. Carbonell will develop a white paper on the issues.

Recommendation: NPSTC should commit to identification/allocation of dedicated surveying spectrum.

Closing Remarks

Mr. Stile thanked the NSO staff for their hard work and all NPSTC members and guests for their attendance and active participation. He adjourned the meeting. The next Governing Board meeting will be held November 8, 9, and 10 in Los Angeles, California. For further details, visit www.npstc.org .

Attendees

Greg Ballentine-APCO, Jeannie Benfaida-FCC, Jeff Bratcher-NTIA, Scott Bryant-Bryant and Assoc, Dave Buchanan-NSPTC, James Byrd-DHS Wireless, Bill Cade-APCO, Alan Caldwell-IAFC, George Carbonell-AASHTO, Brian Cloar-Bearing Point/TA, Tom Coty-DHS, Mike Doble-Proxim, John Dougherty-NPSTC, Jimmy Downes-BAH Communications, David Eierman-Motorola, Jeanne Elders-NPSTC, Bob Epper-Highlands Consulting, Fred Franz-NLECTC-NE/L3 Com, Bob Gurss-APCO, Ralph Haller-FCCA, Joe Hanna-Directions, Ran Haraseth-APCO, Phil Harris-NLECTC-NE/L3 Com, Joe Heaps-NIJ, Charlie Hoffman-NTIA, Nyla Houser-G & H International, Shao Yuan Hsueh-Leapfrog, Al Ittner-Motorola, Craig Jorgensen-P-25, Wayne Leland-TIA, Laura Lippman-NPSTC, Ron Mayworm-City of Byran, Wanda McCarley-APCO, Harlin McEwen-IACP, Gene McGahey-NLECTC-RM/DU, Kevin McGinnis-NASEMSD,Tom Merkle-CapWin, Andy Middlebrooks-Dataradio, Glen Nash-APCO, Sean O'Hara-NPSTC, Derrick Orr-SAFECOM, Mike O'Shea-NIJ, David Otey-Society of Broadcast Engineers, Stu Overby-Motorola, Ray Pache-Dataradio, Joe Peters-Texas Sheriffs Assocaiation, David Pickeral-BAH, John Powell-IACP, Steve Precker-G & H International, Richard Reynolds-NASTD, Better Rinehart-Motorola, Don Root-California SIEC, Gregg Rowland-Pacethop, Bob Schlieman-State of New York Ali Shahnami-ADT, Jackie Siegel-NPSTC, Bob Speidel-Tyco Electronics/MA-Com, Vincent Stile-NPSTC, Andy Thiessen-NTIA, Larry Trobough-Technology Research & Consulting, marilyn Ward-NPSTC, Steve Young-SAEFCOM

Via Teleconference: Tony Cimo-NPSTC, Jim Douglas-NLECTC-NE, Wray Hall-Region 10, Chris Henshaw, Jim Langford