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Third Quarter Report, 2004

This Quarterly Report documents the activities of the National Public Safety Telecommunications Council (NPSTC), its Governing Board, National Support Office (NSO), and three Committees, including their respective Working Groups for the third quarter, 2004.

Governing Board

The Quarterly NPSTC Governing Board meeting was held in Baltimore, Maryland on September 21st and 22nd. Complete meeting minutes can be found on the NPSTC website. At the September meeting, the NPSTC Governing Board granted its approval for NPSTC to send two letters to the Federal Communications Commission (FCC) seeking support on the 700 MHz ID rules, one letter asking that station ID rules for 700 conform to 800 MHz rules, and the other clarifying fixed operational stations.

The Governing Board also unanimously voted to adopt the language of the 4.9 GHz expectations statement, drafted by NPSTC members for the Telecommunications Industry Association (TIA) regarding 4.9 GHz public safety applications. The audience for the letter is vendors and public safety; it is important to ensure that vendors understand that 4.9 GHz will not become the complete public safety package and to educate public safety about the utility of the band.

The Governing Board approved the addition of a new Working Group, added to the Spectrum Management Committee. The new Developing the VHF Band Plan 150-174 Working Group will address the issue of developing a new VHF band plan. The International Telecommunications Union (ITU) Working Group was moved from the Spectrum Management Committee to the Interoperability Committee during the quarter as well.

The NPSTC Governing Board will next meet in New York City on November 18th and 19th. The following NPSTC meeting is tentatively planned to be held in Orlando on January 24th, 25th, and 26th prior to the Department of Homeland Security (DHS) SAFECOM Executive Board meeting to accommodate NPSTC members who serve on that board as well.

National Support Office (NSO)

Background

The NPSTC NSO, operated by the Highlands Consulting Group, supports NPSTC administration, the Governing Board, Committees, meetings, documentation, reporting, the website, listserv, and archives; Committee technical support; the publication of the newsletter and an annual report, outreach; travel, and policy and procedures support.

The NSO comprises an Executive Director; a Director, position currently open; a Committee Technical Support Team, and an Administrative/ Outreach Support Team.

NPSTC is organized into three main working committees—Technology, Spectrum Management, and Interoperability and committee processes continue

to be developed. The process of restructuring NPSTC's work into the Committee format is maturing, but still experiencing growing pains, particularly in the areas of resource tasking. Streamlining the process is critical to the success of NPSTC's new structure because most NPSTC activities are performed through the voluntary participation of the various Working Group and Committee members and Chairs. There are simply not enough volunteers; however, what needs to get done is being accomplished because of the hard work of NPSTC volunteers.

The NSO Executive Director is investigating this issue and will be developing possible solutions, depending on future funding. Three solutions are under consideration—increasing the number of public safety volunteers, increasing the level of support by the existing NSO Committee Technical Support Team, and adding geographic consultants to assist in monitoring activities, such as testbeds. As resources allow, the NSO will become more involved in starting up some of the Working Groups and building momentum and focus until they become self sustaining. Within the current funding framework, the NSO is looking at the following tasks:

- Performing analyses to reach conclusions about the impact and opportunities afforded by the clearing of additional VHF spectrum under ICOM's Petition for Rulemaking.
- Initiating the new 700 Wideband Technologies Working Group by performing analyses and creating a presentation on an implementations guideline for Committee-wide review.
- Initiating analyses on cognitive radio techniques to stimulate additional forward progress in the Software Defined Radio Working Group and to support public safety's position on Interference Protection in the Comments on FCC Docket 04-186/02-380, the Sharing of TV Spectrum with Unlicensed Devices.

Administrative Support

During this quarter, the NSO revised the NPSTC Charter and Handbook, including procedures for voting and approving Governing Board meeting minutes. These will be presented to the Governing Board for their review and approval next quarter. The Executive Committee will be expanded to include the three Committee Chairs. Once the charter is approved, this change will take effect.

The NSO completed the first NPSTC Quarterly Report and issued an updated NPSTC newsletter, *spectrum*, with a new look and format that includes monthly features and articles, available in hard copy or on the website at www.npstc.org. The NPSTC website itself is being reorganized to make it more user friendly and comprehensive with direct links to members' biography pages, a search function, and a new members only section that will include a page for NPSTC members to vote on issues before the Governing Board. The revamped website is scheduled to 'go live' on November 15th.

The NSO will assist with the development of an outreach plan that will include a speakers bureau, conference listing, publication listing, and outreach publications, including a new postcard and brochure. NSO staff provided outreach support at the annual APCO conference in Montreal, adding 30 new members to NPSTC. Once filled, the NPSTC NSO Director position will be responsible for developing a more robust outreach program.

Technical Support

The NSO Committee Technical Support Team provides technical support for the Committees, including issues monitoring, monthly reports, drafting articles for the quarterly newsletter, assistance with the development of technical papers, and meeting support. Most of the technical support provided by the NSO during this quarter was directed toward the urgent and highly technical issues related to NPSTC's 4.9 GHz Petition for Reconsideration (PFR), the FCC Report and Order (R&O) on the 800 MHz Rebanding, and monitoring political activities surrounding 700 MHz TV clearing bills.

Yahoo listserv groups, established for the Technology, Spectrum Management, and Interoperability Committees, continue to grow. As shown below, Committee website membership, a measure of interest and/or participation, has steadily grown since the new NPSTC structure has been introduced, almost doubling in size over the past 5 months.

Committee Website Membership Levels

	Committee Website Members		
Month	Spectrum Management	Technology	Interoperability
May-04	20	18	18
Jun-04	28	27	29
Jul-04	29	27	32
Aug-04	34	34	37
Sep-04	38	39	42

Meetings

NPSTC members represented public safety at various meetings this quarter, including TIA TR-8 meetings, Radio Advisory Board of Canada (RABC) Canadian Public Safety Meetings, and the APCO National Conference, all held in Montreal. Other meetings included IEEE-WAVE/DSRC meetings in Washington, D.C., and four meetings regarding 4.9 GHz issues, with the FCC's Wireless Telecommunications Bureau (WTB) and Office for Engineering and Technology (OET). NPSTC and the Open Standards Industry Coalition joined forces at an FCC meeting on the 4.9 GHz mask issue. In August, NPSTC and the Industry Coalition held six meetings at the FCC with John Muleta, Wireless Bureau Chief; Sam Feder, representing Commissioner Martin; Jennifer Manner, representing Commissioner Abernathy; Barry Ohlson, representing Commissioner Adelstein; Paul Margie, representing Commissioner Copps; and Sheryl Wilkerson, from the Office of FCC Chairman Powell.

A TR-8.8 Conference call during this quarter was focused on solidifying the TR8.8 TIA Working Group work under the P25/P34 User Needs group and ensuring that user representation is officially a part of the standards process. Because the user community has yet to key up a radio, declaring what is in their best interest will not be based on experience, but assumption. The standards process should not move forward too quickly prior to users becoming familiar with broadband access. Good, quality information on functionality will come from the user community after the initial introduction period with the devices.

A 700 MHz Advocacy Working Group conference call was held to discuss 700 MHz shortspacing and the technical requirements required, and whether or not a waiver is required for shortspacing, which would lead to additional 700 MHz availability. Other topics were wideband data channels in reserve and what will happen to those, Channel ID rules for 700 and whether they should parallel 800 MHz ID rules, and operational fixed stations at 700 MHz and whether or not they should be prohibited as in the 800 MHz band. Also discussed was the TIA 902 wideband data standard acceptance and clarifying NPSTC's position in a letter to the FCC.

NPSTC was represented at the September 2004 Software Defined Radio Forum (SDRF) meeting in Seoul, South Korea. SDRF Public Safety Special Interest Group (PSIG) teleconferences were held on a bi-weekly basis as were SDRF Spectrum Sharing Working Group teleconferences. These teleconferences include issues and opportunities related to the use of the Department of Defense's (DoD) Joint Tactical Radio System (JTRS) technology and SDR implementations that meet the SAFECOM Statement of Requirements (SoR), offer advances in public safety's spectrum efficiency/utilization, and break down barriers to interoperability. Working Group member Fred Frantz has written an SDRF Request for Information, *Request for Information on the Topic of How Software Defined Radio Technology Can Meet the Communications and Interoperability Requirements of Public Safety*, to address these matters with industry.

NPSTC in the News

John Powell, Chair, Interoperability Committee, authored a feature article, titled, "A Public Safety Perspective on Cognitive and Software Defined Radio," in the August 2004 issue of *Radio Resource Mission Critical*.

Steven Devine, Chair, Spectrum Committee, was quoted in an August 2004 interview with *First Responder Communications*, for an article, titled, "Emissions Mask for 4.9 GHz Under Fire," and in an interview for the August 24, 2004, issue of *Communications Daily*, for an article, titled, "Motorola and Public Safety Clash Over 4.9 GHz."

FCC Actions

WT 02-55, 800 MHz Interference

On August 6, 2004, the FCC issued a plan with short- and long-term components for improving public safety communications in the 800 MHz band. In the short term, it requires the implementation of technical standards defining unacceptable interference in the 800 MHz band to address the root cause by separating incompatible technologies. The plan incorporates the essential elements of the Nextel proposal and provides Nextel with 10 MHz in the 1.9 GHz band, conditional upon fulfillment of the obligations in the Report and Order (R&O). The ESMR systems receive 14 MHz; public safety, critical infrastructure, and other non-cellular systems receive 18 MHz. Public safety gains an additional 4.5 MHz as part of the band reconfiguration and Nextel relinquishes all 800 MHz spectrum below 817 MHz/862 MHz.

Nextel assumes the full financial responsibility for the cost of relocation of all 800 MHz band public safety systems and other 800 MHz incumbents to their new spectrum assignments with comparable facilities. Nextel also relinquishes current spectrum rights in the 700 MHz guardband. In exchange, Nextel will modify its licenses to provide nationwide authority to operate on 10 MHz of spectrum in the 1910-1915/1990-1995 MHz band.

There are issues that have not yet been resolved. There is no plan in the R&O dealing with Canadian and Mexican border issues, which is not an insignificant issue. Canada is not going to reband and does not have a need to do so. Additionally, Nextel has not yet approved the plan. The plan is not exactly what Nextel wanted and will cost them more. Nextel has 30 days to respond, with Petitions for Reconsideration (PFR) that may follow.

The plan affords post rebanding Appendix F protection (a way to define interference and the procedures for mitigating interference complaints in a post rebanding environment) for public safety immediately upon order. There are minor changes to Appendix F measurements and the National Public Safety Planning Advisory Committee (NSPAC) timelines are unclear; the Consensus Plan required 12 months, but the timeline is not well defined now.

800 MHz rebanding has important implications for Regional Planning Committees (RPCs) and Frequency Coordinators (FCs) who will be extremely busy in the months following the order. International border agreements must be worked out as well. The Association of Public Safety Communications Officials-International (APCO) has assembled a task force, called 800 Alert, of APCO members who will be available to provide information and support to agencies. APCO hosted a super session on 800 MHz at its meeting in Montreal and will host a dedicated symposium at its meeting in Orlando, Florida, in January 2005.

WT 00-32, 4.9 GHz Public Safety Spectrum

In response to FCC concerns regarding interference under a looser mask and the likelihood that their decision would not support public safety's view, NPSTC created a very detailed simulation of a public safety communications scenario to demonstrate that 4.9 GHz would be used as a support resource for public safety, but not as a primary communications resource; to demonstrate how public safety sees multi-frequency bands working together; and to provide the FCC with realistic examples of how public safety will use the spectrum now and in the future.

The scenario and technical analyses provided to the FCC illustrated an example of an operational deployment of 4.9 GHz at the scene of a severe incident. This scenario demonstrated many important characteristics of 4.9 GHz utilization, including its role as a support resource for public safety, how multiple frequency band resources, including 4.9 GHz, work together to meet public safety's operational objectives, what types of applications 4.9 GHz will be used for, the physical limitations and propagation characteristics of the 4.9 GHz band, and how technology is used to solve some of the propagation constraints inherent to the use of 4.9 GHz.

In this scenario, even though multiple agencies had high-density deployments of 4.9 GHz units at the scene, only a minimum degree of incident spectrum management was assumed or even required. Most all infrastructure resources serving the area were destroyed, so all communications were set up "on-the-fly." The scenario assumed that all 4.9 GHz channels had been assigned to individual services or operations ahead of time through the local

Regional Planning Guidelines. For this scenario, incident managers did not consider adjacent channel planning at all.

The simulation results of the scenario demonstrate that the standard technologies used to support the first responder operations can support this extremely complex and stressing incident without any noticeable degradation of Quality of Service (QoS) to the end users at the scene. It also demonstrates that the selection of a standard emission mask (e.g., DSRC Mask A or IEEE 802.11a/j) over a more stringent mask (e.g., DSRC Mask C) has little if any effect upon real-life user operations. The selection and mandate of an emissions mask stricter than that represented by standard 802.11 OFDM [Orthogonal Frequency Division Multiplexing] technologies would only serve to limit the gains that would otherwise be afforded by market-driven forces. It will not provide any significant performance gains, and will in fact stifle the technological innovation and economic gains that would be otherwise available by properly aligning public safety's requirements with technologies developed for larger markets.

Spectrum Management Committee

Chair, Steve Devine, Vice-Chair, Stu Overby

The NPSTC Spectrum Management Committee currently oversees the activities of the following Working Groups:

- Regional Planning Committees (RPC)
- Broadband (BRB)
- TIA TR-8 (TIA)
- International Telecommunications Union (ITU)
- 700 MHz Outreach (700).

Regional Planning Committees (RPC)

The FCC Granted a 6-month delay, pending action on the NPSTC PFR, on the development of 4.9 GHz Regional Planning Guidelines. The National Association of Regional Planning Committees (NARPC), Region 43 (Washington State), Region 18 (Louisiana), Regions 5 and 6 (California), and Regions 40/49/50/51/52/53 (Texas) all filed letters with the Commission on Docket 00-32 requesting a delay in the deadline for Submission of 4.9 GHz Regional Planning Guidelines, many based upon the NSO-provided template. Many of these also supported NPSTC's PFR on the issues of the mask and regional planning enforcement powers. Although NPSTC itself has not specifically filed on this issue, filing by these entities will most likely merit a grant of delay by the FCC.

Many RPCs continue to be unclear about FCC expectations for 4.9 GHz planning and regional plan enforcement. They want to develop regional guidelines with local input that will allow flexible, sub-regional use in accordance with established guidelines to ensure consistent broadband access within a region, but the FCC has not provided direction on this issue yet. All RPCs are being encouraged to review the National Coordination Committee (NCC) Guidelines for plan requirements.

There are and will continue to be discussions on the benefits of RPC "repacking" during the 800 MHz rebanding process. There are concerns about complexity, risk, and schedule; however, there are also clear benefits. The window of time in which to accomplish repacking is narrowing. NARPC will try to solicit comments from the RPCs on the benefits that would be realized through repacking and the ability of the RPCs to respond independently and without assistance within the timelines of the rebanding process. This information, supplemented by analyses from New York State and the NSO, will be provided to the Governing Board for review.

Broadband (BRB)

There was intense activity during this quarter as this Working Group focused on defending NPSTC's position on the mask issues in the 4.9 GHz PFR. FCC Wireless Bureau Chief Muleta appeared to be unconvinced by the record that indicated interference with the looser mask would not be an issue. As discussed in the section on FCC actions, NPSTC filed documents with the FCC that included a very complex technical scenario with detailed

analyses demonstrating the effect of mask selection on first responder operations. Work continues on this issue, although it appears that the latest filings have been well received by the FCC.

BRB continues to discuss public safety requirements and security needs with NTru, DSRC's security consultants. There are two 4.9 and/or 5.9 GHz testbeds underway. One, sponsored by Pinellas County, Florida, will examine the joint use of 4.9 GHz and 5.9 GHz to support public safety requirements and operations. The other testbed is in California and is targeted to the Region 5 and Region 6 RPCs.

At the September NPSTC meeting, the Governing Board unanimously voted to adopt the language of the following 4.9 GHz expectations statement for TIA, regarding 4.9 GHz public safety applications. The audience for the letter is vendors and public safety; it is important to ensure that vendors understand that 4.9 will not become the complete public safety package and to educate public safety on how the band will be used.

NPSTC 4.9 GHz Band Expectation Statement

It is our understanding with regard to the 4.9 GHz public safety spectrum set aside by the FCC, that the use of the band will be limited by the following expectations:

- 1). The function performed by the 4.9 GHz standard will follow the definition of an Incident Area Network* as defined by the SAFECOM SoR with the exception of point-to-point links permitted at the band edges. In effect, this limits the use of the 4.9 GHz standard to notional hot spots and mobile user applications created by infrastructure that is owned and operated by public safety.*
- 2). This standard will preclude mission critical voice, but may support non-mission critical voice. This standard must support mission critical data. It is understood that in a digital communications system that voice is, in effect, data. However, the expectation here is that voice and data will be treated separately and distinctly.*
- 3). A plan will be created for 4.9 GHz operations that will maximize the flexibility needed by disparate jurisdictions while requiring method(s) of interoperability.*

** Incident Area Network (IAN) - An incident area network (IAN) is a network created for a specific incident. This network is temporary in nature and is typically centered around a wireless access point attached to the first responders' vehicle. Multiple vehicles therefore dictate multiple wireless access points, all of which coordinate their coverage and transmissions seamlessly and automatically.*

BRB, working with the Software Defined Radio Working Group, will coordinate an official reaction to the FCC Actions on the continuation of the FCC's 04-136/02-380 Docket on Unlicensed Sharing in the TV Bands. They will also coordinate with the Software Defined radio Forum (SDRF) Spectrum Sharing/Cognitive Working Group, the NPSTC 700 MHz Advocacy Working Group (on TV Interference and Sharing), the RABC Joint Broadcast/Public safety Working Group (on TV Interference and Sharing), as well as the IEEE 802.18 TV Sharing Study Group, soon to be the IEEE 802.22 Working Group. The NSO has provided a draft filing on this to stimulate discussion. The initial comments in the FCC proceeding have been postponed 90 days and are now due November 30, 2004.

TIA TR-8 (TIA)

The Working Group continues to liaise with the Broadband Working Group and to follow the activities of most of the other TR-8 committees. The current plan for TR-8.8 is to develop use cases that will be used to develop bandwidth requirements to support user applications and scenarios. As that is accomplished, the protocol will naturally develop. The modeling will be performed in OpNet (modeling software) by ITS Boulder, SRC, Motorola, and others. SRC will develop the physical layer models, similar to those employed in the NPSTC 4.9 GHz scenario, and interface them with OpNet while ITS will model the upper layer interactions.

There is a new version of TSB-88(B) out for ballot, which appears to be a much-needed improvement over TSB-88(A). ITS has updated and distributed *TR8.8 Use Cases and a Work Plan*, which has been augmented with the recent NPSTC broadband scenario that was filed on 00-32. Together, these will stand as scenarios for further analyses and simulation.

International Telecommunications Union (ITU)

During this quarter, NPSTC discussed the degree of involvement NPSTC needs to maintain with the International Telecommunications Union (ITU), currently achieved through SDR Forum involvement primarily. The ITU is a highly regarded United Nations specialized agency located in Geneva, Switzerland, with 189 member states and administrations, working in three telecommunications domains—technical, development, and policy. Its mission is to be an impartial, international organization for governments and the private sector to work together via consensus building to coordinate operation of telecommunications networks and services and to advance the development of communications technology. ITU's work ranges from global treaty-making events to working parties and email correspondence groups. SDR issues in ITU-Radio communications include a study of six aspects of software defined radios—definitions, key characteristics, band considerations, special interference considerations, operational implications, and conformance with RR.

At the September NPSTC meeting, the Governing Board voted to move the ITU Working Group from the Spectrum Committee to the Interoperability Committee because of its strong relationship with SDR.

700 MHz Outreach (700)

During this quarter, there were two bills before Congress focused on DTV clearing legislation—the McCain Bill in discussion as of this writing, and the Hero Act, which has not gone forward at this time. Several members of the 700 MHz Working Group and industry testified before Congress recently as well.

At the September NPSTC meetings, the Governing Board granted approval for the filing of two letters with the FCC. NPSTC requested clarification of the rules regarding the use of fixed operational stations in the 700 MHz band, and NPSTC supported conformance of the station ID rules at 700 MHz with those used at 800 MHz. Current rules for the 800 MHz band provide licensees with exclusive channels the option of using a digital station ID, however this option is not addressed in the rules for the 700 MHz band.

At the June Governing Board meeting, the Working Group generated a comprehensive plan for activities and actions that include the following and that continues to govern the work of this group.

- 700 MHz TV clearing.
- Short-spacing LM-TV Access Spectrum, Aloha Partners and public safety opportunities.
- TV Channels 60-69 Licensing (LPTV).
- Wideband Standard @ 700 MHz.
- Wideband Reserve-Determine needs-State use of reserve channels.
- 700 MHz 12.5-6.25 KHz Reconsideration Petitions.
- Conformance of 700 MHz ID rules with those of 800 MHz.
- Clarification of Fixed Operation Status at 700 MHz.
- Fallback when 800 MHz RPC Convener does not pursue 700 MHz plan.

The 700 Working Group will collaborate on TV sharing and interference analyses within the 700 MHz band and will coordinate with NPSTC's Broadband Working Group, the RABC Joint Broadcast/Public Safety Working Group, as well as the IEEE 802.18 TV Sharing Study Group/802.22 Working Group. There may also be some coordination with the Software Defined Radio Working Group, through their liaison with the SDRF Spectrum Sharing Working Group.

Border Issues (BIS)

This group continues to work with the RABC, within the Joint Broadcast and Public Safety Working Group, and with Industry Canada to develop the TV band sharing and interference protection rules for public safety and broadcast services.

Technology Committee

Chair, Glen Nash, Vice-Chair, Sean O'Hara

The NPSTC Technology Committee currently oversees the activities of the following Working Groups:

- NCC Recommendations (NCC)
- Narrowbanding Below 512 MHz (NRB)
- ARS and Broadband Over Powerline Technology (BPL)
- Security (SCR).

A statement of the scope and focus of the proposed Paging Technologies Working Group within the Technology Committee has been developed and will be presented for Governing Board approval at the November NPSTC meetings. The Technology Committee would like to revisit the PSWAC Report to identify what has been accomplished since it was issued, what has changed in terms of requirements and technology in the 10-year period that has passed since the issuance of the report, and provide the FCC with the changes. The NSO will develop a white paper on the scope and issues of that effort with all the Committee Chairs.

NCC Recommendations (NCC)

To date, the FCC has still not released its Final Report with NCC recommendations although FCC representatives indicate that this is an active item at the Commission.

At the June NPSTC meeting, the NCC Working Group was asked to generate a brief statement, urging the FCC to take action on the Wideband Interoperability Technology recommendations of the NCC because the FCC delay in acting on the recommendations is affecting equipment availability and deployment. The 700 MHz Advocacy Group will assist in developing this response. NPSTC will be filing an update and clarification on NCC-related issues as soon as possible.

Narrowbanding Below 512 MHz (NRB)

ICOM filed a Petition for Rulemaking (PFR), requesting Additional Public Safety Spectrum at VHF (150 and 153-154 MHz). These additional channels may facilitate some of the band management and “repacking” operations that are necessary to free additional spectrum, assist in narrowbanding transitions, organize the VHF for trunking support, and lessen the effects of interference within the band. The NSO has discussed this issue with the Working Group and will provide significant assistance in generating a response to any FCC-issued docket, performing analyses to reach conclusions about the impact and opportunities afforded by the clearing of additional VHF spectrum under ICOM’s PFR. The NSO will provide a map of areas where channels will become available and analyses on how these channels may be leveraged to re-band portions of the VHF spectrum in certain areas of the country.

An associated, side issue is rebanding this band. Because of a possible conflict, the Governing Board approved the creation of a new Working Group that would remove the rebanding issue from this Working Group and create a new Group to address the issue of developing a new VHF band plan. Because this is a spectrum issue, the new Working Group, Developing the VHF Band Plan 150-174 Working Group, will become part of the Spectrum Committee.

Amateur Radio Services (ARS) and Broadband Over Powerline Technology (BPL)

The primary issue of this group continues to be the Broadband over powerline interference issue. The proceeding continues to move forward in the Commission. A recent communication from ARINC reports harmful interference to airborne communications. The Working Group will draft an ex parte letter prior to the October 7 sunshine deadline, stating that NPSTC’s position is likely to “remain unconvinced that interference is not an issue,” and identifying the threat to aircraft interference. NPSTC has grave concerns that the evidence presented so far actually demonstrates that there will *not* be interference. NPSTC will draft the ex parte letter that will be filed with the FCC.

On September 16, ARINC filed an ex parte filing on BPL interference to airborne operations. At the September NPSTC meetings it was agreed that the NSO would review this filing and provide a summary of its results as well as a draft NPSTC filing as a response. In late September, this material was provided to the American Radio Relay League (ARRL) for initial review, which was then forwarded with some modifications to the Technology Chair and on to the Governing Board for approval.

Security (SCR)

The SCR Working Group is engaged in a high-level assessment of the DSRC security report on the 5.9 GHz portion of the band. DSRC security requirements are valid for their needs, but not valid for the level of security public safety requires. The Working Group has written a monitoring security advisory document and is finishing a wireless security attack document for input into the Global Wireless Security Group.

SCR monitors the activities and short- and long-term goals of GLOBAL, a Department of Justice effort to standardize information sharing among agencies. Long-term goals include how and where to appropriately address identification, authorization, authentication, privacy, integrity, attack detection and prevention, and monitoring.

700 Wideband Technology Working Group (WTC)

There has not been any new work performed in this Working Group. As soon as the 4.9 GHz issues wane, the NSO will provide the support necessary to initiate activity in WTC. A draft scope and mission statement will need to be developed and tasking defined and assigned. The NSO will also work with the group to develop a presentation on planning and implementation guidelines for the RPCs.

Interoperability Committee, Chair, John Powell; Vice-Chairs, David Buchanan and Ralph Haller

The NPSTC Interoperability Committee currently oversees the activities of the following Working Groups:

- Statewide Interoperability Executive Committee (SIEC)
- Project MESA (MESA)
- ARS Software Defined Radio (SDR)
- System Interconnect (ICT).

Statewide Interoperability Executive Committee (SIEC)

The CAPRAD administrator is seeking funding to generate a State Channel pool that can be loaded into the Computer Assisted Pre-coordination and Resource Database System (CAPRAD) to use as an optional SIEC template. A 700/800 MHz Regional Planning Committee Colloquium sponsored by the National Law Enforcement and Corrections Technology Center (NLECTC)-Rocky Mountain held in Denver, Colorado on October 26-27, 2004.

NPSTC sees a strong need to weave the SIECs together in some fashion. The Working Group would like support from SAFECOM and the FCC for NPSTC to develop a framework to assemble the SIEC Chairs and develop a plan to be used as a model by all the SIECs.

Project MESA (MESA)

Together, this committee and MESA are working to align the MESA SoR and the SAFECOM SoR, primarily by eliminating colloquial United States expressions and language that are not relevant to the international public safety community.

Software Defined Radio (SDR)

SDR works closely with the Spectrum Efficiency and Cognitive Radio Working Group of the SDRF, which focuses on the approaches and effectiveness of cognitive and spectrum-sharing technologies. The Working Groups will identify these cognitive and spectrum-sharing approaches, and assess their effectiveness against an

array of incumbent user profiles (e.g., TV operations, CMRS operations, etc). The assessment will be performed using both simulation and testbed validation techniques. The results of the assessment will be filed by the SDRF later this year in conjunction with all open Spectrum Sharing and Cognitive Radio Dockets.

As noted under BRB, the SDR Working Group will combine its voice with the Broadband Working Group to react to the FCC actions on the continuation of the 04-136/02-380 Docket on Unlicensed Sharing in the TV Bands. They will also coordinate with the SDRF Spectrum Sharing/Cognitive Working Group, the NPSTC 700 MHz Advocacy Working Group (on TV Interference and Sharing), the RABC Joint Broadcast/Public Safety Working Group (on TV Interference and Sharing), as well as the IEEE 802.18 TV Sharing Study Group (soon to be called the IEEE 802.22 Working Group).

The Spectrum Efficiency and Cognitive Radio Working Group of the SDRF will review the data collected during the spectrum monitoring before, during, and after the Republican National Convention in New York City.

System Interconnect (ICT)

This Working Group is continuing to seek input from the practitioner community on a white paper addressing appropriate methods for licensing transmitters connected with gateway interconnect devices. The white paper needs to include issues of airborne and maritime activities and is being modified to include mobile as well as fixed gateways. The Working Group's white paper will go to the Governing Board by September 30, 2004, and then to the FCC as an ex parte narrowband filing.

Concluding Remarks

Over the next quarter, the NSO will provide an increased role in the facilitation and execution of Committee activities, which will include building momentum and the focus of some Working Groups until they become self sustaining. The NSO will provide the Governing Board with draft suggestions for revisions to the NPSTC charter, the NPSTC Handbook, and a proposed outreach plan. The NSO will focus technical efforts on several important efforts in the coming months.

- Performing analyses to reach conclusions about the impact and opportunities afforded by the clearing of additional VHF spectrum under ICOM's Petition for Rulemaking.
- Initiating the new 700 Wideband Technologies Working Group by performing analyses and creating a presentation on an implementations guideline for Committee-wide review.
- Initiating analyses on cognitive radio techniques to stimulate additional forward progress in the Software Defined Radio Working Group, as well as to support public safety's position on Interference Protection in the Comments on FCC Docket 04-186/02-380, the Sharing of TV Spectrum with Unlicensed Devices.

The Governing Board will hold its quarterly meeting in New York, New York on November 18 and 19, 2004.

Formed on May 1, 1997, NPSTC is a federation of associations representing public safety telecommunications. NPSTC was originally formed to encourage and facilitate implementation of the findings and recommendations of the Public Safety Wireless Advisory Committee (PSWAC), established in 1994 by the Federal Communications Commission (FCC) and National Telecommunications and Information Administration (NTIA) to evaluate the wireless communications needs of local, tribal, State, and Federal public safety agencies through the year 2010, identify problems, and recommend possible solutions.

NPSTC has since taken on additional responsibilities including implementing the recommendations of the National Coordination Committee (NCC) and the support and development of the Computer Assisted Pre-coordination and Resource Database System (CAPRAD) for 700 MHz spectrum to assist the Regional Planning Committees (RPCs). NPSTC develops and makes recommendations to appropriate governmental bodies regarding public safety communications issues and policies that promote greater interoperability and cooperation between Federal, State and local agencies. Issues include: 4.9 GHz rebanding, Software Defined Radio (SDR), US/Canadian/DTV Transition, Project MESA, Spectrum Resources, Amateur Radio (ARRL), 800 MHz, State Interoperability Executive Committees (SIECs) Broadband, and the International Telecommunications Union.