NPSTC

National Public Safety Telecommunications Council

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FCC Adopts LTE as Common Air Interface for Public Safety Broadband Network
Releases Proposals for Additional Technical Requirements

In a Third Report & Order (R&O) and Fourth Further Notice of Proposed Rulemaking (FNPRM), the FCC has decided to require the use of Long Term Evolution (LTE) as the common air interface to be used for all networks deployed on the public safety broadband spectrum.   The majority of commenters and the public safety community itself have voiced support of LTE technology. The Commission decided to reverse its usual policy of technology neutrality to create a technical framework for the 700 MHz broadband network that will accomplish its number one priority: a nationwide interoperable broadband public safety wireless network.

Specifically, at least 3GPP Standard E-ULTRA Release 8 and associated EPC must be implemented. Any releases after Release 8 must ensure backward compatility between all subsequent releases. The decision requires all public safety networks to support 15 critical Release 8 interfaces that support roaming and ensure multi-vendor interoperability for devices and equipment. (The 15 interfaces are listed in page 6 of the decision). Each public safety broadband network operator must certify to the FCC;s Public Safety and Homeland Security Bureau (PSHSB) that it is supporting the required interfaces prior to "service availability" which is defined as when the system is being used on a day-to-day basis by at least 50 users.

Because no D Block licensee exists, the FCC is staying most of the partnership rules for the time being. A waiver is still required for any agency who wishes to deploy a broadband network on the public safety broadband spectrum because there is no other way to access the spectrum.

In the Further Notice the FCC is seeking comment on issues related to ensuring that the Broadband Network (PSBN) fully supports nationwide interoperability. Some of the

questions the FCC asks in this proceeding are:

- Should the Part 90 definition of "interoperability" be changed to match the definition used by the Department of Homeland Security?

- The FNPRM suggests certain architectural guiding principles that each regional network would be required to support (such as certain baseline applications, home-routed and local-breakout roaming, interference mitigation schemes, minimum levels of spectrum efficiency and coverage reliability, etc.) Should this framework be codified in the rules? Does the proposed framework include everything the network should support? Is the Commission the right agency to decide?

- Should the Commission review the framework at set intervals (2 years is suggested) to ensure that the PSBN evolves and refreshes as new technologies are made available?

- Should the networks be required to upgrade within certain timeframes?

- Could a third-party clearinghouse provide such functions as roaming authentication and clearing, directory services and interconnectivity?

- How can interconnectivity be achieved? Direct, dedicated interconnectivity between networks is a reliable, secure solution, but is it cost effective nationwide? Is use of the public Internet an option? Could third-party network operators provide adequate capacity? Should there be a single third-party provider or multiple providers? Who should select the third-party provider(s)?

- The broadband early deployment waiver recipients networks are required to support five applications: 1) Internet access; 2) Virtual Private Network (VPN) access to home networks and any authorized site; 3) a status "homepage"; 4) network access for users under the Incident Command System; and 5) field-based server applications. The Further Notice proposes that each public safety broadband network support these five applications and asks detailed technical questions about each one. Should additional applications be supported such as Status/Information SMS-MMS Messaging and Land Mobile Radio gateways?

- How can interconnection with legacy public safety systems be addressed? What are the costs associated with requiring interconnectivity and what is the appropriate timeframe?

- Minimum data rates of 256 Kbps uplink (UL) and 768 Kbps downlink (DL) for all types of devices for a single user at the cell edge are proposed and each network must provide the minimum date rates based on a sector loading of 70 percent throughout the entire network. Public safety networks must certify compliance with these minimum data rates within 30 days of service availability. The certification must include data rate plots that map specific performance levels. Comment is sought on these proposed requirements.

- Should coverage requirements (population or geography based) be imposed? Should there be interim coverage deadlines?

- The Further Notice proposes an outdoor coverage reliability requirement of 95 percent for all services and applications throughout the network. Is this reasonable?

- A requirement that all public safety broadband networks coordinate deployment with any adjacent or neighboring jurisdiction 90 days prior to implementation is proposed. The notified jurisdiction would have the option to require a written coordination agreement that would then be filed with the Commission.

- Should the FCC develop and impose interference mitigation requirements?

- Broadband early deployment waiver recipients are required to protect incumbent narrowband operations through either engineering, geographic separation, or relocation of the incumbent at the waiver recipient's expense. The Further Notice proposes to continue to require that public safety broadband networks protect narrowband incumbents to the same degree. Should additional technical rules be adopted to ensure protection of narrowband incumbents? Should the broadband network operator be required to notify and obtain the consent of the narrowband incumbent before beginning operations? What are the appropriate timeframes?

- Are federal entities eligible to directly lease spectrum for broadband?

The Commission has previously determined that utilities and critical infrastructure entities are not eligible to operate on the 700 MHz spectrum. However, given that many public safety agencies would like to include public works, utilities, and others as secondary users on the networks to share costs, take advantage of existing infrastructure, and coordinate response during emergencies, the Further Notice asks several questions related to compliance with the eligibility requirements imposed by Congress. Could non-public safety users operate on the system as long as the "principal" purpose of the network was for public safety purposes? What percentage of network use could secondary users comprise? How could secondary use be measured?

Comments will be due 45 days after publication in the Federal Register; replies will be due 75 days after Federal Register publication.

The text of the News Release is available at:
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-304244A1.doc

The text of the NPRM is available at:
http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-6A1.doc

The FCC video that provides an overview of the decision and the proposed rules is available on the FCC's YouTube page at:
http://www.youtube.com/watch?v=h50Njf_Ga_A

FCC's Narrowbanding Workshop

The FCC hosted a workshop on January 26 to provide licensees with information on narrowbanding. The workshop began with a welcome from the Chief of the PSHSB and included a short presentation by FCC staff followed by two panel presentations. In his opening remarks, Jamie Barnett, Chief, PSHSB, noted that a search of the FCC's licensing database indicated that most licenses have not been modified to reflect the completion of narrowbanding. Nevertheless, licensees should not expect the FCC to extend the deadline which has been in place for many years. Licensees need to focus on this now, and to plan and secure funding.

The FCC has developed a website devoted to narrowbanding (http://www.fcc.gov/pshs/public-safety-spectrum/narrowbanding.html) and an email address to which licensees can submit and receive answers to narrowbanding-related questions at narrowbanding@fcc.gov.
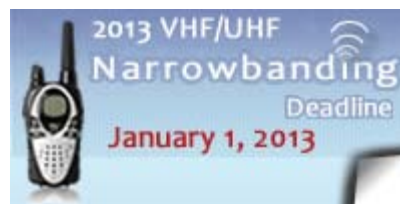
Barnett addressed the question of waivers, saying any waiver request must meet a high standard based on unique circumstances and that they are not routinely granted. If a licensee is concerned about meeting the deadline, the first step is to contact the FCC to explain more about the particular circumstances and discuss possible options.

FCC staff then gave a short presentation on the narrowbanding regulations and a demonstration of how to perform a license modification on ULS. This presentation is available at: http://www.fcc.gov/pshs/summits/#narrowbanding_workshop

Richard Reed, Department of Homeland Security (DHS), Office of Emergency Communications (OEC) described and demonstrated a website that provides a frequency mapping tool developed by that office at the request of the states. States wanted to be able to determine the status of narrowbanding, locate contact information for each licensee, and sort by frequency, county, and state. OEC incorporated the FCC database into Google Maps to develop a website that allows users to query and map narrowbanding compliance within a particular geographic area as well as download the data in an excel spreadsheet. The website is www.publicsafetytools.info.

The first panel addressed the impact of narrowbanding on licensees and included representatives from transit, public safety, frequency coordinators, and equipment manufacturers.

With the deadline less than 2 years away, a number of surveys have been conducted to determine the status of narrowbanding. Responses have ranged from reports that systems are completely compliant with the narrowband requirement to total

unfamiliarity with the need to narrowband.

Many agencies have developed a timetable but funding is a major obstacle. Other issues identified as stumbling blocks include lack of qualified technicians, coordination with neighboring agencies to ensure continuing interoperability, and concerns about impact to the system's coverage and range. Ralph Haller, Chair, NPSTC, identified some of the major misconceptions in the user community including a belief that "the Commission won't do anything if I don't narrowband." In response, the FCC's Roberto Mussenden indicated that if a licensee failed to narrowband, that licensee would no longer be in compliance with the FCC rules, would lose protection from interference, and would face the very real possibility of enforcement action. A willful disregard of the Commission's rules would not be viewed favorably by the Compliance Branch. Also that agency would be putting agencies whuch relied on them in an interoperability situation at risk.

The second panel consisted of representatives from state and federal agencies and addressed the budgetary process and funding options. Agencies shouldn't just assume that grant monies are unavailable but should research funding options and how their state distributes monies. The federal representatives discussed the funding avenues currently available and provided links to websites with additional information.

Planning was stressed as absolutely crucial. Agencies need to inventory their radio system to see what they have, what radios have to be re-programmed, which ones have to be replaced; who will do the work, and what will it cost. Until that has been determined, agencies will have no idea of the scope of the funding needed and will be unprepared to request any funding that might become available. Once Congress has appropriated funds, the window to file applications to receive those monies is very short and unless an agency has done pre-planning it is very difficult if not impossible to prepare the application within the time allowed. A video of the workshop is available for playback at: http://reboot.fcc.gov/video-archives.

FCC Seeks Comment on Rapidly Deployable Aerial Telecommunications Architecture Capable of Providing Immediate Communications to Disaster Areas

The PSHSB is asking for comment on current and future technologies that could be quickly sent to an area in the first few hours after a major natural or man-made disaster to restore communications. Comment is particularly sought on low-altitude unmanned aerial vehicles or balloon-mounted systems. The Commission is seeking to understand the available technologies and the associated technical issues.

- How could such technologies be coordinated and managed before, during, and after deployment?

- How can the FCC ensure aerial systems coordinate with terrestrial and satellite operations to avoid interference?

- What public safety agencies might be involved in the operations of such systems?

- What systems might be adversely impacted?

- What specific types of aerial systems might be used? What are their capacity and bandwidth requirements? What are the costs associated with deployment, implementation, and maintenance? Are these systems secure?

Comments are due February 28, 2011. The text of the Public Notice is available at:
http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0128/DA-11-175A1.doc

LoJack Corporation Seeks Waiver of Stolen Vehicle Operation System Operation Requirements

The LoJack Corporation has filed a request to waive the following requirements currently imposed on the operation of frequency 173.075 for Stolen Vehicle Recovery Systems:

- Permit activation of the tracking device by a portable device as well as a base station

- Permit non-police entities to activate the device
- Allow a duty cycle of every 1000 milliseconds every 8 seconds for transmitting activation signals.

LoJack is developing a wristwatch-like device that is targeted to be worn by at-risk persons such as nursing home residents with dementia or Alzheimers or children with disabilities. A handheld Portable Activation Tracker (PAT) is also being developed to activate and track the wristwatch devices over a limited geographic area. LoJack's waiver indicates that the PAT and wristwatch device could operate on a different frequency when used by non-police entities but would be used on 173.075 when used by police officers searching for missing persons. Permitting non-police persons to activate handheld PATs would allow nursing home personnel to quickly activate and begin searching for missing residents.

The FCC is asking for comment on each aspect of LoJack's waiver, particularly whether changing the duty cycle would impact TV Channel 7 reception or federal use of 173.075.

Comments are due February 8; Replies are due February 18, 2011. The text of the Public Notice is available at:
http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0124/DA-11-123A1.doc

Region 25 (Montana) Streamlined NPSPAC Plan Amendment Approved

On January 11, the FCC approved Montana's (Region 25) streamlined NPSPAC Plan amendment to bring it into compliance with the post-rebanding 800 MHz band plan.

The text of the Public Notice is available at:
http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0111/DA-11-51A1.doc

One 700 MHz Regional Plan Approved

The FCC approved the following 700 MHz Regional Plans during December: Region 23 (Mississippi) approved January 12. Text of the Public Notice is available at:
http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0112/DA-11-61A1.doc

Thirty-seven 700 MHz Plans have been approved; two Plans are still pending with the FCC.