

SPECTRUM MONITOR

The Latest Public-Safety Spectrum Issues

By Stu Overby

The National Public Safety Telecommunications Council (NPSTC) devotes significant time and attention to public-safety spectrum issues, including operational requirements that drive spectrum planning and implementation. NPSTC focuses on narrowband operations that support LMR networks and broadband requirements addressed by the First Responder Network Authority's (FirstNet) nationwide public-safety broadband network (NPSBN). Following are recent activities in which NPSTC has been engaged to support public-safety narrowband spectrum and operations.



700 MHz Deployable Channels

An Oct. 24 FCC report and order addressed multiple issues involving public-safety 700 MHz narrowband spectrum. Several decisions were in response to recommendations from NPSTC and others in public safety. The FCC decided to release some 700 MHz narrowband reserve spectrum specifically to support deployable trunked systems, which can provide additional public-safety communications support at a major incident or

event. As part of its decision, the FCC encouraged NPSTC and the National Regional Planning Council (NRPC) to identify specific 700 MHz band reserve channels on a nationwide basis to support deployable trunked systems.

NPSTC and the NRPC established a joint working group, deliberated the technical and operational issues involved, and developed a recommendation submitted to the FCC in mid-February. This recommendation identified six channel pairs for deployable trunked systems on a nationwide basis, with the exception of Sector 2 of the U.S./Canada border area, where only four usable channel pairs could be identified. Reply comments on the NPSTC filing are due April 17. The

NPSTC recommended rules that hold cellular licensees responsible for costs incurred by Part 90 licensees in the process of interference abatement.

working group is also addressing system ID requirements for deployable systems and developing guidance to help minimize interference among deployable systems when multiple incidents are close to one another.

Project 25 CAP Rules

In the order, the FCC also addressed the Project 25 (P25) Compliance Assessment Program (P25 CAP). Sec-

tion 90.548 of the rules requires a radio designed to operate on 700 MHz narrowband interoperability channels to conform to P25 technical standards. P25 CAP ensures that communications equipment conforms to P25 standards and is interoperable across vendors.

While stopping short of mandating use of P25 CAP, the FCC rules presume a manufacturer that submits its equipment for P25 CAP certification is compliant with the requirements of Section 90.548 of the rules. The Telecommunications Industry Association (TIA) asked the commission to reconsider its decision and to decouple the P25 CAP certification from FCC equipment certification. TIA said that while it supports P25 CAP, the timing

of the two processes is incompatible.

In a reply to the TIA request, NPSTC advised the FCC of its strong support for the P25 standard and CAP process. To the extent that the timing of FCC equipment certification is incompatible with the P25 CAP certification requirements, NPSTC recommended the commission modify the rules so that any radio designed to operate on the 700 MHz narrowband

interoperability channels be mandated to meet P25 CAP certification prior to manufacturer sale to distributors or public-safety entities.

Part 22 Public Notice

In an October public notice, the FCC requested comment on more flexible Part 22 technical rules, which regulate spectrum used by commercial paging systems. Some jurisdictions use Part 22 channels obtained on the secondary market to supplement Part 90 public-safety channels, especially for relatively large systems. Public-safety experience shows some flexibility is needed when these Part 22 channels are deployed in public-safety systems.

NPSTC submitted its recommendations, which identify changes to the rules that would benefit public-safety agencies deploying these Part 22 channels. NPSTC recommended the FCC widen emission bandwidth to match the allowed mask; allow mobiles, portables and fixed equipment certified under Part 90 to operate on Part 22 channels; and modify buildout requirements to consider wide-area systems that license adjacent areas to provide interference protection. Updating the Part 22 rules in each of these three areas would benefit public safety and enhance opportunities to deploy under-

utilized spectrum.

Cellular Power Limits

In a further notice of proposed rule-making (FNPRM) released Nov. 10, the FCC addressed multiple technical issues surrounding power limits for 800 MHz band cellular systems and the potential for interference to public-safety operations in adjacent spectrum. Some jurisdictions have experienced interference to public-safety communications when operations are in close proximity to 800 MHz cellular base stations. Mitigating this interference normally involves steps to reduce the signal at ground level near a cellular site, where public-safety mobiles and portables are most likely to encounter strong cellular signals.

NPSTC recommended to the FCC in mid-February that adopting power flux density (PFD) limits for cellular base stations can help minimize the risk of such interference. NPSTC also noted that when steps must be taken to mitigate interference, public safety can incur significant unfunded costs in the process of working with a cellular licensee to investigate and resolve the situation. Accordingly, NPSTC recommended rules that hold cellular licensees responsible for legitimate costs incurred by Part 90 licensees in

the process of interference abatement.

Energy-Efficient Lighting

Several individuals who experienced radio interference from energy-efficient lighting approached NPSTC. Based on the initial input from various agencies, NPSTC developed and compiled a formal survey distributed to public safety Jan. 19. As of the close of that survey Feb. 13, about 76 public-safety agency representatives had responded. Fifty-one of those responding said they had no interference, with the remaining 25 providing some details on the interference they had experienced. NPSTC expects to review these responses in more detail and complete a report on the issue soon.

One of NPSTC's primary activities is to help public safety attain needed spectrum, and the council is pleased to support public safety. ■

Stu Overby is vice chairman of the National Public Safety Telecommunications Council (NPSTC) Spectrum Management Committee, where he and Dave Buchanan, chair of the committee, guide NPSTC's spectrum activities. Overby has more than 40 years of experience including 27 years with Motorola Solutions and as an engineer with the FCC. Email comments to editor@RRMediaGroup.com.