VIEW FROM THE TOP

Efficiency consistency

BY AL ITTNER

While much of the news coming out of the FCC lately seems to be centered on emerging broadband communications, the commission's narrowbanding deadlines affecting land-mobile radio users in the UHF and VHF bands are approaching rapidly without much fanfare. Are you prepared to meet these requirements? If not, your agency may not be able to fully communicate within the next one to three years.

Even though the FCC started the narrowbanding proceedings almost 20 years ago, there still is confusion among LMR users and even equipment providers over what exactly the FCC requires and what happens if those requirements are not met.

The FCC is mandating that all licensees convert existing 25 kHz efficiency operations in the VHF and UHF bands to minimum 12.5 kHz efficiency analog or digital operation, and that going forward they implement no more 25 kHz efficiency systems. To implement this mandate, the FCC developed rules and deadlines that impact both radio users and equipment providers.

A common source of confusion stems from the terms "efficiency" and "equivalent efficiency" found in various FCC narrowbanding rulings. The FCC does not mandate channel width; it mandates spectrum efficiency. The rules require 12.5 kHz or equivalent efficiency, such as two voice paths in 25 kHz channels or data rates of 4,800 bits per second per 6.25 kHz of channel bandwidth (9.6 kb/s in 12.5 kHz channels or 19.2 kb/s in 25 kHz channels).

Similarly, the certification rules noted below require a 6.25 kHz or equivalent efficiency mode, such as two voice paths in 12.5 kHz channels, four voice paths in 25 kHz channels, or data rates of 4800 bits per second per 6.25 kHz of channel bandwidth.

An FCC decision still is pending on a petition filed by the National Public Safety Telecommunications Council for a stay of the Jan. 1, 2011, deadline that would require newly certified radios to have a 6.25 kHz channel equivalency mode. NPSTC believes a stay is needed to maintain interoperability during the transition. But filed comments were inconsistent — some supported the 2011 delay and others opposed it. The 19 member associations of the Land Mobile Communications Council don't agree on a delay of the 2011 deadline either. However, both NPSTC and LMCC remain united in support of adherence to the 2013 final deadline. There also is support for consistency across public safety and business users.

The 12.5 kHz deadline for new applications or existing license modifications is only one year away. The deadline for all licensees operating in at least 12.5 kHz efficiency is only three years away. Here are some preparations to start now:

- Review the FCC public notice released Dec. 11, which reaffirms this mandate and provides additional transition instructions.
- Take an inventory of your radios. Equipment purchased during the last 10 years likely is dual mode 25/12.5 kHz, so converting should be a simple process of disabling the 25 kHz mode. Older equipment likely will need replacement. Contact your equipment provider for a detailed listing of 12.5 kHz capable radios and infrastructure.
- Develop budget requirements and explore funding options.
- Establish a conversion schedule.
- Coordinate your conversion with neighboring agencies for continued interoperability.
- Conduct tests during conversion to ensure your system continues to provide similar coverage. Determine if transmitter site changes or additions will be required to compensate for possible coverage changes. ■

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