

# Narrowbanding Basics

The Federal Communications Commission has mandated that all non-federal public safety agencies using 25 kHz radio systems must migrate to narrowband 12.5 kHz channels by January 1, 2013. If you fail to act by then, your agency will lose its radio communication capabilities. You should begin planning immediately to assess your radio equipment for replacement or reprogramming, and start applying for new licenses. NYSTEC's experienced staff of radio engineers and project managers can assist you with every aspect of narrowbanding compliance.

## *Why did the FCC mandate narrowbanding?*

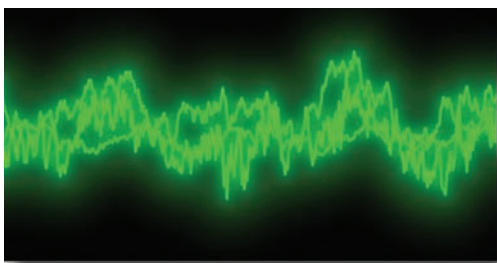
In many populated areas, the VHF high band and UHF spectrum are saturated. Due to the overcrowded spectrum, new radio systems can't be built and existing ones can't be expanded. By forcing high-band and UHF subscribers to migrate to a narrower bandwidth (from 25 kHz-wide channels to 12.5 kHz channels), the FCC will free up spectrum and enable more efficient use of the airwaves.

## *Who is affected?*

With few exceptions, all holders of licenses between 150 MHz and 512 MHz will move to the narrowband by January 1, 2013. Agencies will need to replace older equipment (roughly any equipment more than six to eight years old) and reprogram their newest equipment. Agencies that use pagers or fixed-station monitors for siren activation also need to evaluate their systems.



## *What is the most important thing that I need to know about narrowbanding?*



If you operate between 150 MHz and 512 MHz, you should begin developing a detailed plan to complete the migration to narrowband channels before 2013. Even if your equipment is new, all of your base stations, fixed equipment, and mobile equipment must be reprogrammed, and all of your radios changed to the new channel width. Operators with older equipment face the greatest challenges. Infrastructure or equipment that isn't narrowband-capable

must be replaced. Systems with fixed multiple sites and many subscriber units will require the most comprehensive planning. Coordination between jurisdictions should also occur because wideband radios and narrowband radios will not interoperate.

## *What can NYSTEC do to make migration go seamlessly?*

NYSTEC can assist you every step of the way. We will help you with all necessary planning, including spectrum management, channel planning, and migration. Our experienced engineering staff can perform an equipment inventory; evaluate your system; analyze coverage; help you program existing equipment and procure new equipment; help with licensing; estimate costs; provide project management and quality assurance; and undertake acceptance testing.

### ***What do I need to get ready for narrowbanding?***

You need to develop a detailed plan immediately. The requirements for migration are daunting, and 2013 will arrive sooner than you think. You need to undertake a comprehensive equipment inventory to identify equipment that can be reprogrammed and equipment that has to be replaced. You must modify existing licenses and file for new ones. New equipment may require the development of bid specifications and budgets, and an assessment of procurement options. You must determine whether adjacent wideband channels will interfere with your new narrowband channels. You will also need to create test plans and perform rigorous tests on the new system.



### ***What does the FCC Report and Order say?***

The FCC established deadlines to phase in the migration. The first important deadline is January 1, 2011, after which the FCC will only grant narrowband authorizations and prohibit the manufacture of equipment operating on 25 kHz channels. This will greatly limit the availability of new equipment for legacy radio systems and affect maintenance of those systems. All licensees must be operating in the 12.5 kHz bandwidth by January 1, 2013.

### ***What needs to be done to comply with the FCC Report and Order?***



Preparation for narrowbanding will require a major commitment of your time, resources, and money. You should first appoint a project leader to oversee the planning and implementation. User groups and elected officials must be included in the planning process. You must get up to speed on narrowbanding requirements, prepare a budget for the transition, and develop a project plan, including a timeline. You will then will need to immerse yourself in the necessary tasks leading to cutover.

***NYSTEC can help your agency migrate successfully to narrowband. We can even advise you on taking advantage of the process to improve your communications capabilities. Contact us today to learn more about NYSTEC's narrowbanding services.***

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