



TECH BRIEF 2012-7

FCC Narrowbanding

Countdown to the Narrowbanding Deadline

On **January 1, 2013**, all public safety and business industrial land mobile radio systems operating in the 150-512 MHz radio bands must cease operating using 25 kHz efficiency technology, and begin operating using at least 12.5 kHz efficiency technology. This deadline is the result of an FCC effort that began almost two decades ago to ensure more efficient use of the spectrum and greater spectrum access for public safety and non-public safety users. Migration to 12.5 kHz efficiency technology (once referred to as Refarming, but now referred to as Narrowbanding) will allow the creation of additional channel capacity within the same radio spectrum, and support more users.

After January 1, 2013, licensees not operating at 12.5 KHz efficiency will be in violation of the Commission's rules and could be subject to FCC enforcement action, which may include admonishment, monetary fines, or loss of license.

What are the Benefits of Narrowbanding?

The purpose of mandatory narrowbanding is to promote more efficient use of the VHF and UHF land mobile bands. Today, these bands are highly congested, and there often is not enough spectrum available for licensees to expand their existing systems or implement new systems. As licensees convert to equipment that operates on narrower channel bandwidths, new channels will become available for licensing by parties that need them. It also is hoped that the narrowband conversion will spur the development of new technologies that will further promote efficient spectrum use, be less susceptible to interference, and provide licensees with enhanced capabilities.

The following checklist is provided to assist you in working through the processes to meet the January, 2013 compliance date.

Narrowbanding Checklist



Evaluate all existing licenses. Licenses for frequencies below 512 MHz need to be modified for narrowband operation. You should also develop an understanding of how the channels are being used and by whom to facilitate the planning system migration to narrowband. Verify that your agency has a current and valid FCC Part 90 radio station license. For FCC licenses, go to:

<http://wireless2.fcc.gov/UlsApp/UlsSearch/searchLicense.jsp>



Submit an application to modify your FCC license to add the narrowband emission. Do this immediately as it could take several months to obtain a modified FCC authorization.



Conduct a full inventory of all radio equipment on your system. It is important to identify the specific make, model and serial number of all radio equipment that you use. This Assessment will help determine whether your radio equipment can be upgraded or must be replaced. This information is also essential to determine the cost to reprogram, upgrade or replace equipment.

- Inventory all mobile, portable, and dispatch radios
- Inventory all pagers
- Inventory all site equipment components
- Inventory console components and console capacity
- Don't forget about other components using radio frequency such as tornado sirens, Knox boxes, scada systems.



Determine which equipment can be re-programmed and which must be replaced.

- Do a coverage analysis to see if the system coverage still addresses your response area. This is due to the coverage loss due to the change to narrowband.
- Change paging tones to frequencies 300 Hz and above. Paging tones below 300 Hz do not work properly with narrowband.
- Consider using different CTCSS or DCS tones when switching to narrowband. This way if a radio is missed and left in wideband mode, it will not operate on the narrowband system.



Initiate the internal business process of budgeting for the project. There will be Licensing fees and planning services along with software and/or hardware purchases. The overall process may take over a year to complete. Make sure that the budget cycle supports complete transition and relicensing before January 1, 2013.



Develop a community coordinated implementation plan. The plan must be well coordinated with all entities using your system and other entities that you communicate with.

- Reprogram, upgrade or replace equipment
- Assure minimal disruption to normal radio communications operations
- Coordinate with neighboring agencies to avoid loss of interoperability

Additional References:

FCC Narrowbanding Mandate – A Public Safety Guide for Compliance:

http://transition.fcc.gov/pshs/docs/clearinghouse/guidelines/Narrowbanding_Booklet.pdf

FCC Website:

<http://transition.fcc.gov/pshs/public-safety-spectrum/narrowbanding.html>

Narrowbanding Frequently Asked Questions (FAQ's):

<http://transition.fcc.gov/pshs/public-safety-spectrum/narrowbanding-faq.html>

Your regular radio vendors can also be a good source of information on the new requirements.

For More Information on the
Technology Transfer Center programs,
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