

# Narrowbanding Mandate

## Per FCC DA 09-2589

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- FCC mandated process to require a channel efficiency of 1 voice channel per 12.5 kHz of spectrum for all users operating between 150-174 and 421-512 MHz
- Many Public Safety Licensees use wideband (**WB**) 25 kHz channels. Narrowbanding requires users to migrate to narrowband (**NB**) 12.5 kHz channels
- Requires data efficiency of 4800 bps for a 6.25 kHz channel, or 9600 bps for a 12.5 kHz narrowband channel
- Digital upgrades are **not** required as a result of narrowbanding.

# When is the Deadline?

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- **End of 2010** – At the end of 2010, the FCC will no longer grant New or MOD Apps for WB operations. In addition, the FCC will prohibit the manufacture or importation of equipment that operates on a 25 kHz BW
- **End of 2012**– At the end of 2012, all users operating between 150-174 and 421-512 MHz must be operating on a 12.5 kHz voice channel efficiency, 9600 bps (or equivalent) data rate. Users who are not NB compliant by this deadline risk cancellation of their FCC licenses. Per FCC, failure to remove the wideband designator puts the licensee in violation of 47 C.F.R. 90.209(b)(5)

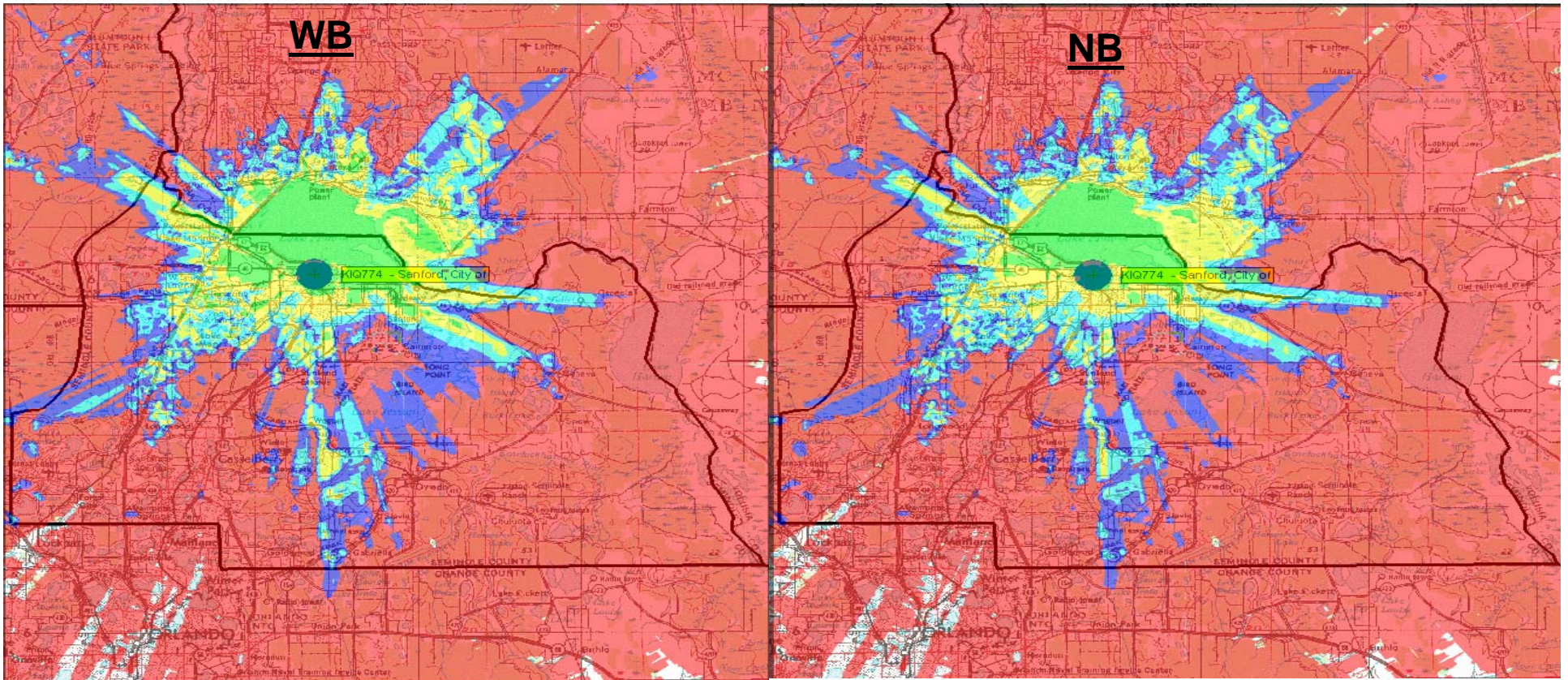
# Impact on Coverage

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- Transition from WB to NB on an analog system will result in a reduction in coverage of about 3 dB.
- Loss of coverage a result of reduced sensitivity in NB receivers.
- A coverage analysis will be necessary to insure coverage reductions will not result in the loss of radio coverage in key areas, such as portable in-building coverage.

# Propagation Studies

(based on licensed parameters)



# Budgeting

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- Replacement equipment represents the most significant investment in narrowbanding.
- Inventory your system now and determine what equipment will need to be replaced.
- Add the cost of new radios to your agencies budget immediately.
- New equipment represents a significant investment. It may take several years to secure the necessary resources.

# Grant Funding

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- Narrowbanding costs may be piggybacked on other communications grants such as PSIC, IECGP, AFG, etc.

# Interoperability Channels

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- While not required, narrowbanding provides a good opportunity to add InterOp channels to your system.
- Channels immediately adjacent to InterOp channels in the VHF and UHF bands have already narrowbanded. If you are operating adjacent to an InterOp channel with a wideband system, then your operations are on a secondary basis. If you are utilizing an InterOp channel for regular communications, plan on relocating.

VHF (MHz)	UHF (MHz)
151.1375	453/458.2125
154.4525	453/458.4625
155.7525	453/458.7125
158.7375	453/458.8625
159.4725	

# Spectrum and Licenses

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- All licensed frequencies will remain the same. No frequency exchange is required.
- FCC licenses must be updated to reflect a NB emission designator. NB emission designators include 11koF3E (voice), 11koF1D (data), and 11koF2D (data).
- Updating the emission designator requires frequency coordination.
- Channels will be narrowbanded on a one-for-one basis.

# Summary

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- The FCC has required that all users “narrowband” their VHF and UHF radio systems before the end of 2012. No new applications or modifications of WB licenses will be granted after 2010.
- Equipment not capable of operating in a NB configuration must be replaced. Equipment capable of operating in both wideband and NB configurations must be programmed to operate in narrowband mode. **Again, per FCC, failure to remove the WB designator puts the licensee in violation of 47 C.F.R. 90.209(b)(5).**
- Start planning now. The deadline is about 1 FY away!

# Questions?



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