

# VHF/UHF Narrowbanding

South Dakota Transportation Safety Conference  
April 4, 2012

# FCC Action to Initiate Narrowbanding

## **“REFARMING”**

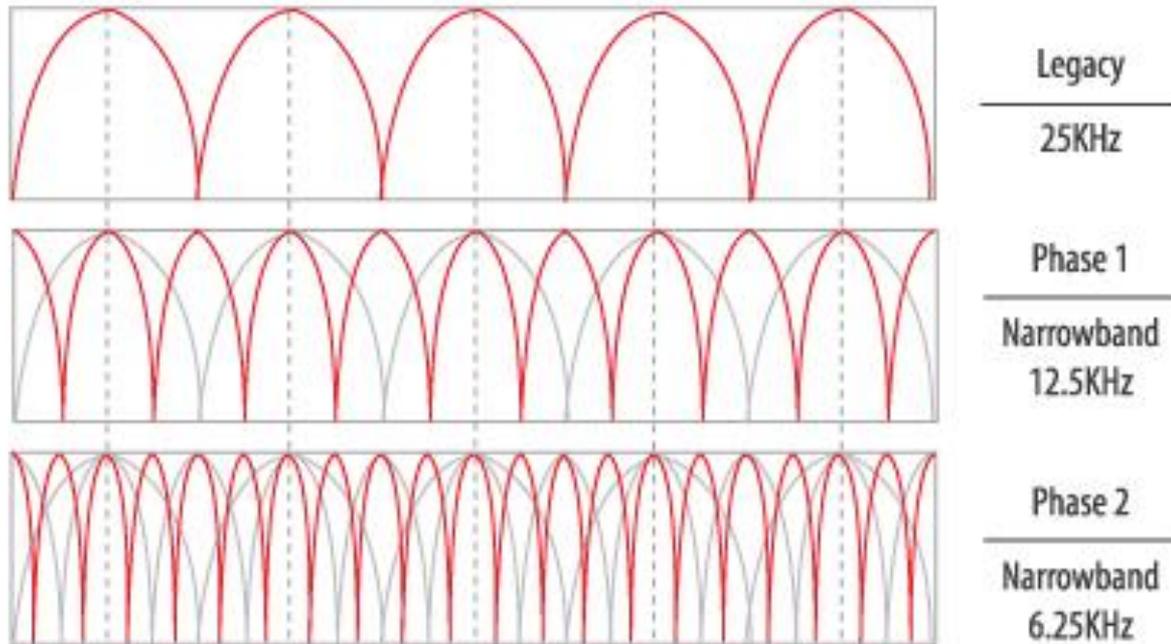
The FCC’s narrowbanding requirements were adopted during the course of a proceeding known as “refarming” that was initiated in 1992. The basic purpose of this proceeding was to enhance spectrum efficiency in the VHF and UHF land mobile bands. “Refarming” entails not only mandatory narrowbanding, but also the consolidation of twenty separate radio services into two radio pools: a Public Safety Pool and an Industrial/Business Pool.

# Narrowbanding Basics

- ▶ **Who is required to narrowband?**
  - All Public Safety and Industrial/Business licensees in the 150–174 MHz (VHF) and 421–512 MHz (UHF) bands
  - Most state, county and local radio systems in rural communities operate in these bands
- ▶ **What is required?**
  - By January 1, 2013, licensees must migrate their systems from 25 kHz (wideband) to 12.5 kHz (narrowband) channel bandwidth or a technology that achieves equivalent efficiency

# Why FCC Mandate for Narrowband?

- ▶ Narrowbanding ensures more efficient use of the spectrum and greater spectrum access for public safety and non-public safety users



# Narrowbanding Steps

1. Identify all systems, voice, paging, control(SCADA), control(Sirens, etc.) that operate in the VHF or UHF bands.
2. Inventory all equipment, confirm that equipment is narrowband capable. Most equipment manufactured after 1997 are capable.
3. Your agency (or vendor) will need to file for an added emission designator on your license for 12.5KHz operation.
4. Reprogram/replace equipment as necessary to meet the narrowbanding requirements.
5. Remove the 25KHz designator from the license.

# How to Modify your FCC License for Narrowband

## STEP ONE: Gathering your license information

Before you begin you will need the following Information:

1. Your FCC Registration Number (FRN)
2. Your FCC Call Sign(s)
3. The Password Associated with your FRN

### Don't Know Your FRN?

Click here to do an FRN Search:

<https://fjallfoss.fcc.gov/coresWeb/simpleSearch.do>

Choose to search by EIN (Your Federal Tax ID Number.) Your Town Clerk or Treasurer will know your Federal Tax ID Number. This will display all FRNs for your organization. You can then enter the FRN(s) in the License Search section below to search for your call sign(s).

### Don't Know Your Call Signs?

Click here to do a FCC License Search:

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

You can Search by FRN or Licensee Name.

# Requests for Waiver

- The January 1, 2013 deadline will not be extended
  - Any licensee requiring additional time must request a waiver of the deadline
- July 2011 Waiver Guidance Public Notice (DA 11-1189)
  - Waiver requests must be well-documented to meet the FCC's waiver standard and will not be routinely granted
  - Licensees should ask for only as much time as necessary to achieve compliance by a date certain in a timely fashion
  - Licensees should support waiver requests with information on system size, complexity, progress to date, proposed schedule, and funding sources
  - Regionally coordinated requests encouraged

# Narrowbanding Deadline

- ▶ **All VHF/UHF licensees must complete narrowbanding to 12.5 kHz by January 1, 2013**
  - FCC will also no longer allow manufacture or importation of equipment that includes a 25 kHz mode
- ▶ **Interim narrowbanding requirements took effect on January 1, 2011:**
  - 12.5 kHz operation required for all new VHF/UHF systems or expansion of existing systems
  - FCC will not certify new equipment that includes a 25 KHz mode

# Meeting the Deadline Is Important

- ▶ After January 1, 2013, FCC interference rules will not protect non-compliant wideband systems from harmful interference
- ▶ Systems that fail to narrowband by the deadline could create interference or interoperability problems for systems that have narrowbanded
- ▶ Wideband equipment will not be available after January 1, 2013

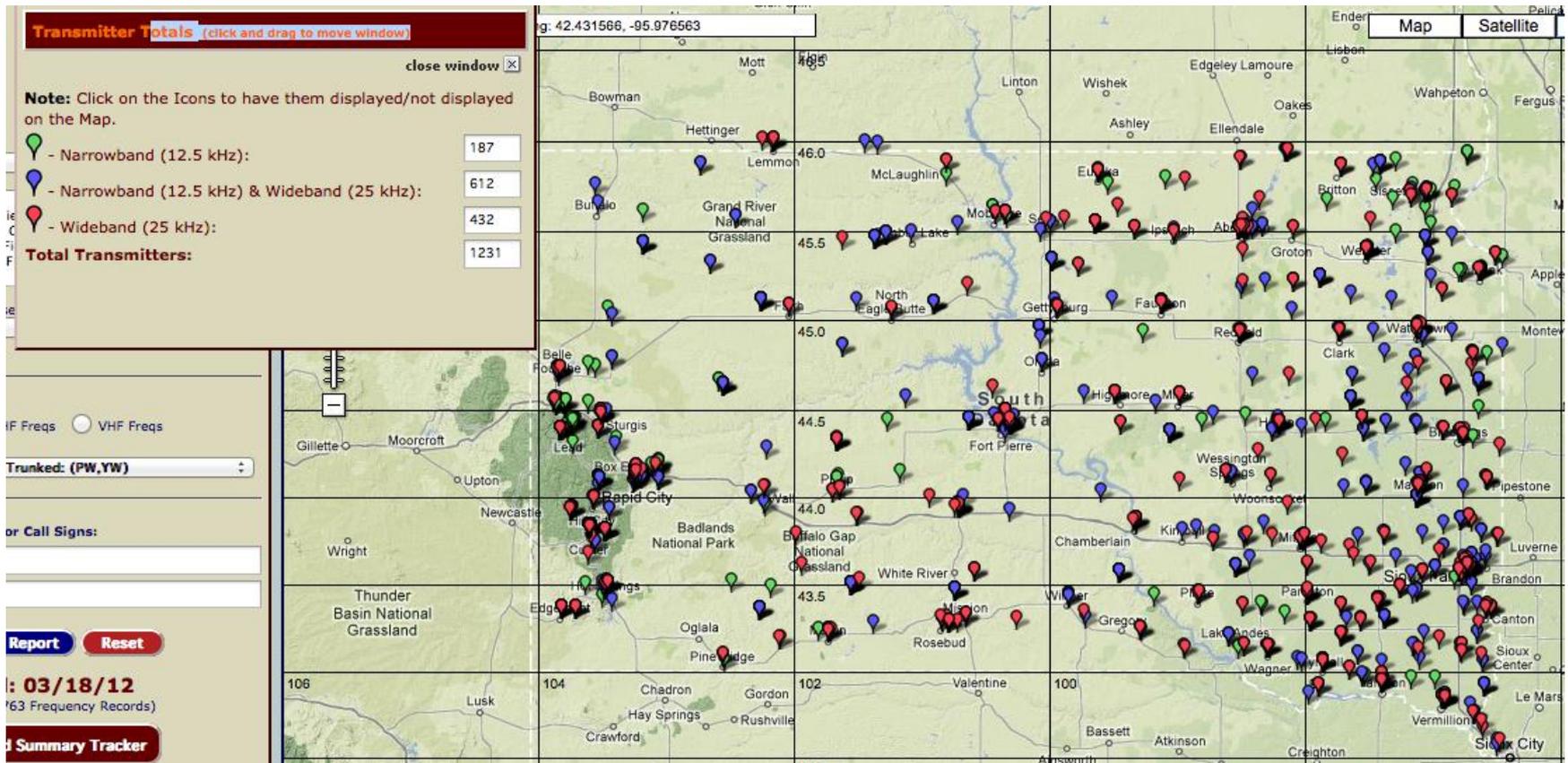
# Requests for Waiver

- February 2012 Waiver Guidance Public Notice (DA 12-246)
  - Licensees should include:
    - A definitive list of the frequencies for which they are seeking a waiver,
    - A list of frequencies that will be relinquished
    - Representations from all licensees covered by the waiver request that they have committed to take any actions that form the basis for the waiver justification.

# Potential Consequences

- ▶ Licensees operating in wideband mode after January 1, 2013 without a waiver will be in violation of the Commission's rules.
- ▶ The Enforcement Bureau's Spectrum Enforcement Division, in conjunction with the Regional and Field Offices, would investigate wideband interference complaints. Violations can result in:
  - Admonishments,
  - License revocation, and/or monetary forfeitures
    - Up to \$16,000 for each such violation or each day of a continuing violation
    - Up to \$112,500 for any single act or failure to act.

# Narrowband Status South Dakota



# Interpreting Your County Data

COUNTY	# 12.5kHz	% 12.5kHz	# 12.5kHz/ 25kHz	% 12.5kHz/ 25kHz	# 25kHz	% 25kHz	Total
Total	93	19.46%	200	41.84%	185	38.70%	478
AURORA	1	20.00%	2	40.00%	2	40.00%	5
BEADLE	2	20.00%	5	50.00%	3	30.00%	10
BENNETT	2	50.00%	1	25.00%	1	25.00%	4
BON HOMME	1	12.50%	3	37.50%	4	50.00%	8
BROOKINGS	3	21.43%	6	42.86%	5	35.71%	14
BROWN	1	8.33%	7	58.33%	4	33.33%	12
BRULE	0	0.00%	2	50.00%	2	50.00%	4
BUFFALO	0	0.00%	0	0.00%	1	1	1
BUTTE	4	40.00%	4	40.00%	2	20.00%	10
CHARLES MIX	3	25.00%	5	41.67%	4	33.33%	12
CLARK	1	14.29%	4	57.14%	2	28.57%	7
CLAY	1	12.50%	4	50.00%	3	37.50%	8

Number per county  
Narrowband only

Percent of licenses  
Licensed Narrowband

Number licensed both  
Wide and narrowband

Percent licensed both  
Wide and narrowband

Number per county  
Wideband only

Percent of licenses  
Wideband only

FRN = FCC Registration Number

CallSign = FCC Issued Call Sign for Your Channel

Fixed Transmitters = Licensed Base/Repeater Stations

# Cost and Funding Considerations

- ▶ The cost of narrowbanding will vary depending on the nature of each licensee's existing system
  - Narrowbanding generally does not require a system upgrade, though licensees may combine narrowbanding with other scheduled upgrades or modifications
  - Narrowbanding costs will be more substantial for systems that require additional sites and for older systems that require replacement of existing equipment

## Myths & Truths

### Licensees must implement digital technology

- False –No digital requirement

### Licensees will end up with twice as many channels

- False

### Hundreds of new channels will be available in 2013

- False

### Failure to narrowband will result in secondary status

- False –Failure to narrowband will be illegal and stations will have to go off the air

### Interference may occur to existing systems

- True –Wideband operations may experience interference from new narrowband stations

## Interoperability may be negatively impacted

- True –Until all entities transition to narrowband, some may operate on interop channels with wideband equipment while others are at narrowband. Distortion or volume discrepancies may occur.

## Paging channels need not narrowband

- True for two channels only–152.0075 MHz and 157.4500 MHz can remain 25.0 kHz bandwidth

## The FCC will allow continued operation at 25.0 kHz after Jan 1, 2013 by waiver

- Maybe –but don't count on it. The FCC has taken a hard line policy on narrowbanding

# State Level Resources

- ▶ <http://www.npstc.org/narrowbanding.jsp>
  - Provides a list (by state) of public safety communications professionals who have volunteered to be points of contact to assist in narrowbanding
  
- ▶ Statewide Interoperability Coordinators
  - Individuals who serve as a single point of contact to help develop interoperable communications within a state
    - Jeff Pierce
    - [jeff.pierce@state.sd.us](mailto:jeff.pierce@state.sd.us)
    - 605-773-4347

# Resources

- ▶ DHS Office of Emergency Communications ([oece@hq.dhs.gov](mailto:oece@hq.dhs.gov))
  - [A Practical Guide to Narrowbanding](#)
- ▶ DOJ National Institute of Justice
  - <http://www.ojp.usdoj.gov/nij/topics/technology/communication/radios/fcc-narrowbanding.htm>
- ▶ South Dakota Public Safety Communications Council
  - <http://www.sdpscc.sd.gov/comminfo.aspx>

# FCC Website and Contacts

FCC Narrowbanding Website:

- [www.fcc.gov/narrowbanding](http://www.fcc.gov/narrowbanding)

FCC Narrowbanding Mailbox:

- [narrowbanding@fcc.gov](mailto:narrowbanding@fcc.gov)

Public Safety and Homeland Security Bureau  
Contacts:

- Roberto Mussenden
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Questions?