

State of Maine **Update** to Narrowband Planning Primer for Maine Towns and Counties

~ Continuation of CONOPS ~

~ Narrowbanding of Existing Repeaters, State of Maine ~

Provided by

**Maine Emergency Management Agency (MEMA)
&
Maine Office of Information Technology (OIT)**

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Maine.gov/MEMA

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- **FCC Narrowbanding Mandate.** The State of Maine is required to comply with new Federal Communications Commission (FCC) narrowband requirement not later than January 1, 2013. This applies to all levels of public safety – municipal, county, state, tribal, and federal agencies.
 - **Interagency Coordination.** All FCC Part 90 Private Land Mobile Radio Licensees operating in VHF (150-174) and UHF (421-512) are impacted by the FCC mandate. Municipal, county, state, tribal and federal agencies must complete their administrative licensing and programming of radios in compliance with this mandate before the FCC deadline. This necessitates coordination among municipal, county, state, tribal, and federal partners to ensure continued interoperability.
 - **State Government’s MScCommNet Project.** The Executive Branch of Maine State Government (SOM) is also unifying and modernizing its public safety radio communications system in a project known as the **Maine State Communications Network** “MScCommNet”.

The date for completion of the State’s MScCommNet project is 2013, which coincides with the year of the FCC narrowbanding mandate of January 1, 2013.

The State plans to conduct a two-phased implementation of its new system

- 1st phase during 2012
 - install new narrowband user mobile and portable radios
 - switch existing repeaters to narrowband operation
- 2nd phase in 2013
 - install new dispatch consoles
 - cutover to the new MScCommNet system
- **Narrowbanding the CONOPS frequencies.** Licensing and programming existing CONOPS and MEMA frequencies for narrowbanding is a separate sub-project from the State’s MScCommNet modernization project.
- 2012: SOM and MEMA equipment
 - SOM issue of new radios to state agency users, with all frequencies narrowbanded, including CONOPS frequencies
 - SOM repeaters cutover to narrowband mode
 - MEMA repeaters cutover to narrowband mode
- 2013: SOM cutover to new MScCommNet system, with new “RegionNet frequencies”

Table 1 below lists the planned migration & cutover dates for both the State of Maine (SOM) Narrowbanding and MScCommNet Projects.

Table 1. Planned Migration¹ Dates for State of Maine (SOM) Narrowbanding and MScCommNet Projects		
2012	SOM/CONOPS migration from wideband to narrowband (conventional VHF)	
	July 2012	Commence - State of Maine radios programmed to narrowband CONOPS frequencies
	October 2012	Complete - State of Maine radios programmed to narrowband CONOPS frequencies
	SOM migration to narrowband	
	January 1, 2013	All users shall operate on narrowband frequencies only (municipal, county, tribal, state, and federal CONOPS users) in accordance with the Federal Communications Commission (FCC) narrowbanding deadline
	SOM/MEMA repeaters migration (see Table #3, discontinuation note)	
	July 2012	State Zone 4: Houlton Repeater @ #9 Mountain
	August 2012	State Zone 3: Orono Repeaters @ Cadillac, Cooper, Harris & Passadumkeag
	September 2012	State Zone 2: Augusta Repeater @ Huntoon
	October 2012	State Zone 1: Gray Repeaters @ Ossipee & Spruce
SOM/MEMA repeaters migration to narrowband		
November 1, 2012	MEMA CUTOVER DATE: All MEMA repeaters will operate narrowbanded	
2012 - 2013	SOM/MScCommNet equipment migration (State of Maine agencies)	
	June 2012	Commence - State of Maine upgrade to new MScCommNet radios – approximately 2,687 radios [approximately 1526 Portable Radios, 680 Mobile Radios, & 481 Vehicle Extenders (Includes mobile Radio)]
	October 2012	Complete – State of Maine upgrade to new MScCommNet radios
	SOM migration to MScCommNet	
Summer 2013 Cutover	Commence – State of Maine operates internally on digital network Commence – RegionNet (expanded coverage) VHF analog interoperability partners (at 40 sites) Commence – Maine State Police Zone Dispatch Broadcast Service on selected RegionNet repeaters (increased from 9 to 17 sites total) Discontinue – MEMA specific traditional frequencies Discontinue – Other State Government traditional frequencies	

Programming of Narrowbanded CONOPS frequencies by county and local agencies.

CONOPS (Contingency Operations) Definition. The State/MEMA has developed a voluntary communications radio plan that identifies six (6) state-wide simplex frequencies currently in use and licensed for large scale emergency incident management. Operationally, these frequencies are under the control of the Maine Emergency Management Agency (“MEMA”). CONOPS frequencies are for interoperability and will continue to be used as in the past. The only change to the CONOPS frequencies will be the migration from wideband to narrowband, to comply with the FCC mandate.

The CONOPS frequencies are commonly programmed into radios and are available state-wide. CONOPS frequencies are normally used statewide on daily basis; however, these frequencies may be requested by incident commanders (through the MEMA Director) to provide a communications interoperability layer for incidents as defined by MEMA. In case of emergency, MEMA has the authority to suspend normal operations and to temporarily reassign these frequencies to incident commanders if requested. (see MEMA CONOPS protocols)

For CONOPS to function successfully as an interoperability layer, all channels must be programmed into any applicable radio prior to an incident. The six (6) CONOPS frequencies are listed in [Table 4](#).

¹ "Migration" of equipment and licenses must meet FCC mandate for 12.5 khz operations; the process to migrate from wideband to narrowband frequencies.

Table 2. Notes on CONOPS interoperability frequencies	
Current status wideband.	As of April 2012, the CONOPS frequencies are still operating wideband in some instances.
Future status narrowbanding	The State of Maine has relicensed the CONOPS frequencies for narrowband (occupied bandwidth of 12.5 kHz) and will program these frequencies in State radios as narrowband during the months of July, August, September and October 2012, working from north to south by State Police Zones.
Cutover date	Commencing January 1, 2013 - all CONOPS frequency use shall be exclusively on narrowband (municipal, county, state, tribal, and federal partners).
Continuation	The CONOPS plan will continue in effect - before, during, and after - all migrations to narrowbanding and the State's migration to the MSCommNet system.

Tables 3 details the process for transition of MEMA frequencies to narrowband bandwidths

Table 3. Notes on MEMA frequencies	
Current status wideband	As of April 2012, the MEMA frequencies are still operating wideband.
Future status narrowbanding	The State of Maine has relicensed the MEMA frequencies for narrowband (occupied bandwidth of 12.5 kHz) and will program these frequencies as narrowband during the months of July, August, September, and October 2012, working from north to south to account for mountaintop weather.
Cutover date	Commencing November 1, 2012, all MEMA frequency use shall be exclusively on narrowband (all local, county, and State radios).
Discontinuation	Eventually (in 2013), the MEMA frequencies will be absorbed internally into the MSCommNet system and will no longer be identified separately as "MEMA frequencies". At that time, interoperability between municipal, county, state, tribal, and federal partners will be accomplished through the new "RegionNets" repeaters (VHF narrowband).
RegionNets	<p>MSCommNet will include a RegionNet Interoperability Layer operating in traditional VHF narrowband, in 2013. RegionNet will provide 2-way interoperability between the state and essential municipal, county, state, tribal, and federal partners. RegionNet repeaters will be located at 40 MSCommNet sites.</p> <p>MSCommNet will include a Maine State Police Zone Dispatch Broadcast Service operating in traditional VHF narrowband, in 2013. This service will broadcast the Maine State Police primary channel (MSCommNet digital) on selected RegionNet repeaters as traditional VHF narrowband. Currently there are 9 MSP repeater sites. With MSCommNet, there will be 17 MSCommNet repeater sites providing increased geographical coverage.</p>

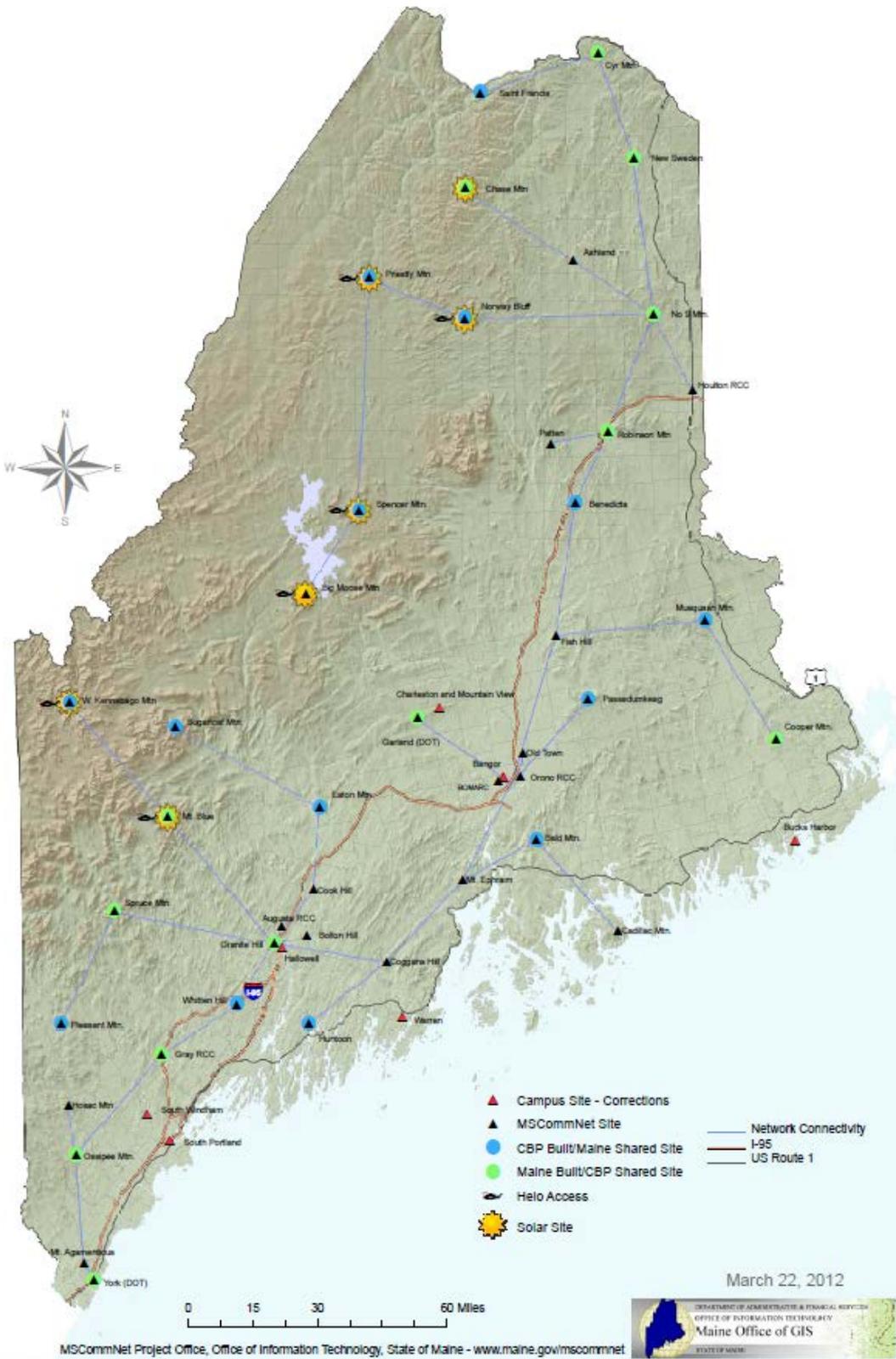
The eight (8) current MEMA repeater frequencies are listed in Table 4 along with notes on the CONOPS interoperability frequencies

Table 4. CONOPS and MEMA Frequencies for Interoperability

CONOPS Frequencies:			
• CONOPS 1. Statewide State Police			154.7100 MHz
• CONOPS 1. Nationwide Car-to-Car			155.4750 MHz
• CONOPS 3. Emergency Medical Services / Land - Air Search and Rescue (LASAR)			155.1600 MHz
• CONOPS 4. State Police Car-Car			154.9350 MHz
• CONOPS 5. Statewide Fire			154.3100 MHz
• CONOPS 6. Statewide Car-Car			154.6950 MHz
NOTE: It is very important to not program private line (PL) tones with the CONOPS frequencies. The purpose of CONOPS is to have simple interoperable channels that all agencies will recognize and utilize when in large scale inter-agency response scenarios.			
MEMA Repeater Frequencies:			
• #9 Mountain	TX: 160.1400 MHz	RX: 159.7050 MHz	TX & RX PL: 110.9 Hz
• Cadillac	TX: 160.1400 MHz	RX: 159.7050 MHz	TX & RX PL: 192.8 Hz
• Cooper	TX: 160.1400 MHz	RX: 159.7050 MHz	TX & RX PL: 151.4 Hz
• Harris	TX: 160.1400 MHz	RX: 159.7050 MHz	TX & RX PL: 118.8 Hz
• Huntoon	TX: 160.1400 MHz	RX: 159.7050 MHz	TX & RX PL: 162.2 Hz
• Ossipee	TX: 160.1400 MHz	RX: 159.7050 MHz	TX & RX PL: 103.5 Hz
• Passadumkeag	TX: 160.1400 MHz	RX: 159.7050 MHz	TX & RX PL: 146.2 Hz
• Spruce	TX: 160.1400 MHz	RX: 159.7050 MHz	TX & RX PL: 179.9 Hz
Technical Limits:			
• Occupied bandwidth:	12.5 kHz		
• Transmitter Power Output:	50 watts		
• Effective Radiated Power:	100 watts		
• Modulation Type / Nature:	Frequency Modulation Maximum deviation: +/- 2.5 kHz Single channel, analog modulation Telephony only		

Programming of Region Net frequencies by county and local agencies. RegionNet frequencies (traditional analog VHF narrowband frequencies) are intended to provide “interoperability” between the State’s new MSCommNet system (digital) and municipal, county, state, tribal, and federal partners (analog). The RegionNet frequencies will be published when available and use of these new frequencies is scheduled for commencement in 2013. These may be programmed into municipal, county, state, tribal, and federal partner radios upon availability. As the State MSCommNet Project rolls out the new RegionNet frequencies, notification of cutover at specific sites will be posted on the MSCommNet website (maine.gov/MSCommNet) and also “pushed” through MEMA (maine.gov/MEMA)

Maine State Communications Network (MSCommNet)



MSCommNet Project Office, Office of Information Technology, State of Maine - www.maine.gov/mscommnet

