

Statewide Emergency Management Radio System (EMRS)

Background

The New Mexico (NM) Department of Homeland Security and Emergency Management (DHSEM) established a Statewide Interoperable Communications Working Group (SICWG) in 2007 to plan the design and implementation of an interoperable Statewide Emergency Management Radio System (EMRS).

The SICWG proposed the establishment of the statewide EMRS by adding additional simplex/direct frequencies in VHF/UHF and 800 MHz in each area of the State. The EMRS is intended to allow increased local communication and facilitate region to region communication, as well as statewide communication among entities.

The EMRS is designed to be used with existing locally-owned radio equipment, while allowing different types of radio systems to communicate via nationally approved frequencies. It also will allow New Mexico public safety agencies to directly communicate with agencies from other states responding into New Mexico. The basis for this system is the U.S. Department of Homeland Security (DHS) "Interoperability Continuum" and the National Public Safety Telecommunication Council (NPSTC) "Public Safety Interoperability Channels".

The DHSEM EMRS will benefit all local public safety agencies by providing increased on-scene frequencies/channels, wide mutual aid response communications, and direct communications with other regional areas and the State EOC.

Technical Summary

NPSTC frequencies include:

- 21 simplex and three repeater frequencies on VHF
- Four simplex and four repeater frequencies on UHF
- Five simplex and five repeater frequencies on 800 MHz frequency bands

All are analog and will be available to all local public safety agencies. The interoperability frequency/channels are grouped by discipline with call channels to be monitored by dispatch centers. All frequencies may be used by any public safety agency. Programming these channels into every public safety radio in the State, according to frequency band, will enable agencies to directly communicate with agencies outside of their jurisdiction during mutual aid incidents.

The NPSTC repeater frequencies will be placed at wide-area coverage state radio sites and tied to the state radio digital microwave system. There will be one repeater on a NPSTC channel in each public safety frequency band; VHF, UHF and 800 MHz. These repeaters will be free-standing and can be used to increase

coverage with local dispatch centers, or linked via Santa Fe control to additional sites to provide statewide coverage, as needed. This system provides for point-to-point communications between local field units and Emergency Operations Centers (EOC's) and direct communication with the NMDHSEM EOC.

Funding

The funding for this System is being provided by a Public Safety Interoperable Communications (PSIC) grant from the U.S Commerce Department and Department of Homeland Security. In order to fulfill the PSIC grant requirements local governments are required to work with State officials on this project. The goal is to implement the EMRS without financial contributions from local entities by using State radio sites, buildings, towers, and digital micro-wave backbone investments to complement existing local equipment. The DHSEM will serve as the fiscal agent for management of the PSIC grant program and will be responsible for all implementation costs, including but not limited to, site assessment, engineering, equipment and installation costs.

Site Requirements

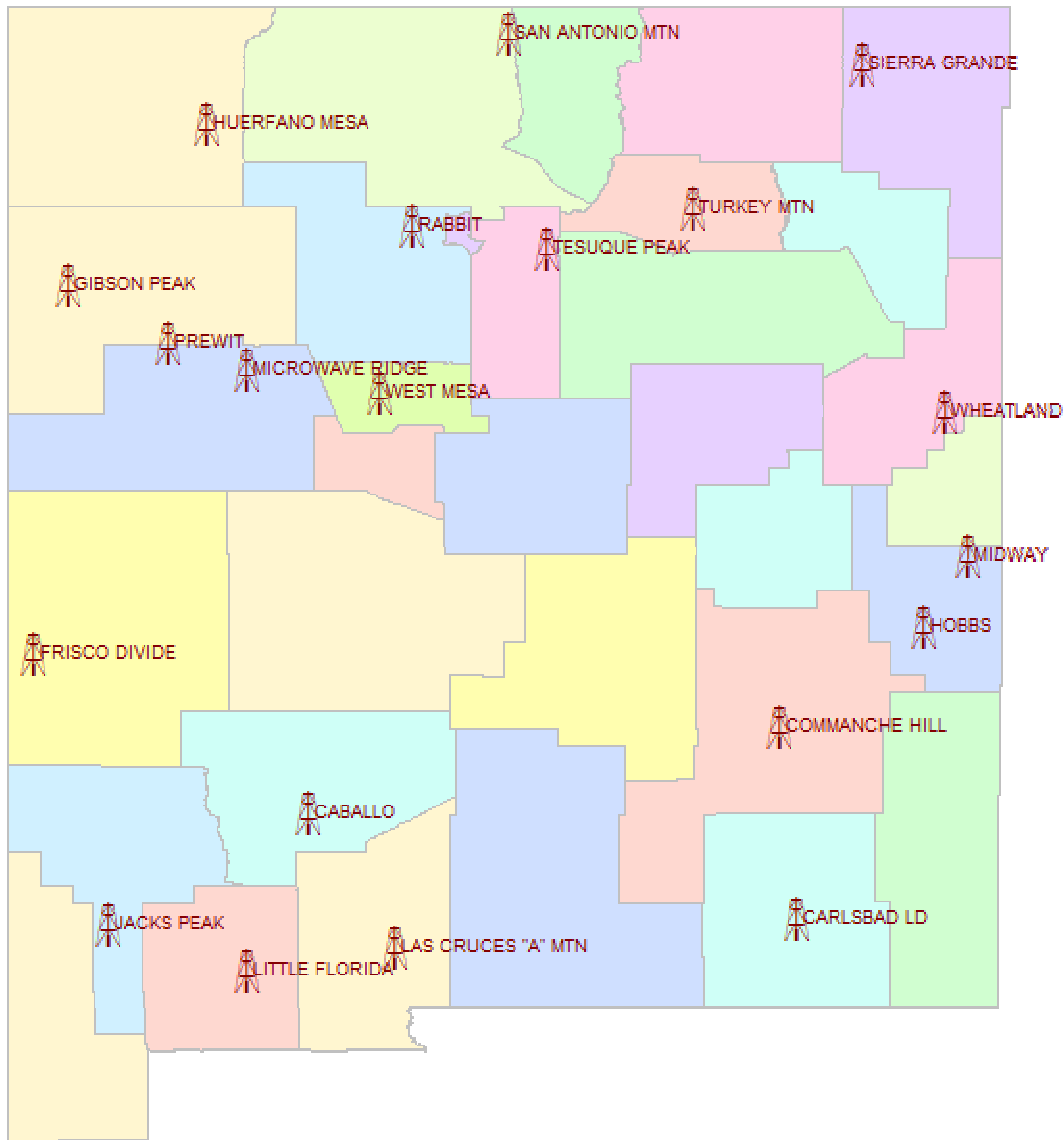
It is estimated that 22 transmitter sites will be needed to provide effective statewide interoperable communications under this project. The minimum installation requirements for each site include:

- One VHF repeater
- One UHF repeater
- One 800 MHz repeater
- Battery backup power supply (UPS)
- RF filters and duplexers, as needed
- Three sets of antennas with combiners or multi-couplers, as needed
- Space for one 19" x 24" x 72" rack for three repeaters
- 3' x 3' of space for RF filters
- 110 volts 30 amps is the minimum power requirement:

Additional site information:

- Each site requires a microwave link to the EMRS system to allow the repeaters to be tied together and/or tied to another site. All sites will be stand-alone until patched together; allowing county to county, county to region and region to the state EOC connectivity.
- Any modification to the existing infrastructure (ie. towers, shelters, UPS) required to support the EMRS will be determined by prior site assessments performed in partnership with DoIT.

Figure 1 - Proposed EMRS Sites



Financial Reporting Requirements

Each public safety agency receiving PSIC funds is required to meet and document the 20 percent statutory match requirement for each project during the grant program period of performance. DHSEM is required to track and report the match requirement for each individual project receiving PSIC funds and recipients are required to document that matching funds are from non-federal sources. The match requirements also can be met through cash or in-kind sources consistent with 15 C.F.R. §§ 24.3, 24.24. Planning, coordination and training efforts are exempt and do not require match funding. DHSEM will only be permitted to draw down PSIC funds in proportion to the non-federal matching funds identified, consistent with Pub. L. No. 109-171, § 3006(c).

DHSEM anticipates the need to provide the following documentation to support the 20% matching requirement:

- Executed purchase orders
- Invoices
- Vouchers
- Copies of warrants to be available upon request

New Mexico will continue to expand the capability of its digital microwave backbone system and in the next 20 months will be upgrading and extending the towers and communications facilities that the New Mexico Interoperable Radio System will utilize. These upgrades will include towers, structures, and power infrastructure structures to support the PSIC initiatives and to be used to deploy the EMRS equipment. The amount of this planned investment is expected to exceed the required 20% match of \$1,528,807.

Administrative Requirements

Under a Memorandum of Agreement (MOA), DHSEM will reimburse DoIT for use of the equipment and state radio dispatch capabilities utilizing the predefined rates established by DoIT for exercises, training, or an emergency event, as declared by an executive order.

DoIT staff will be available for immediate/emergency repairs to the tower sites and the MOA provides for negotiated support rates for immediate repair needs. DHSEM will manage the maintenance agreements for the equipment installed at the tower sites to support EMRS, while DoIT will retain responsibility for the maintenance of all other equipment and infrastructure located at the tower sites.

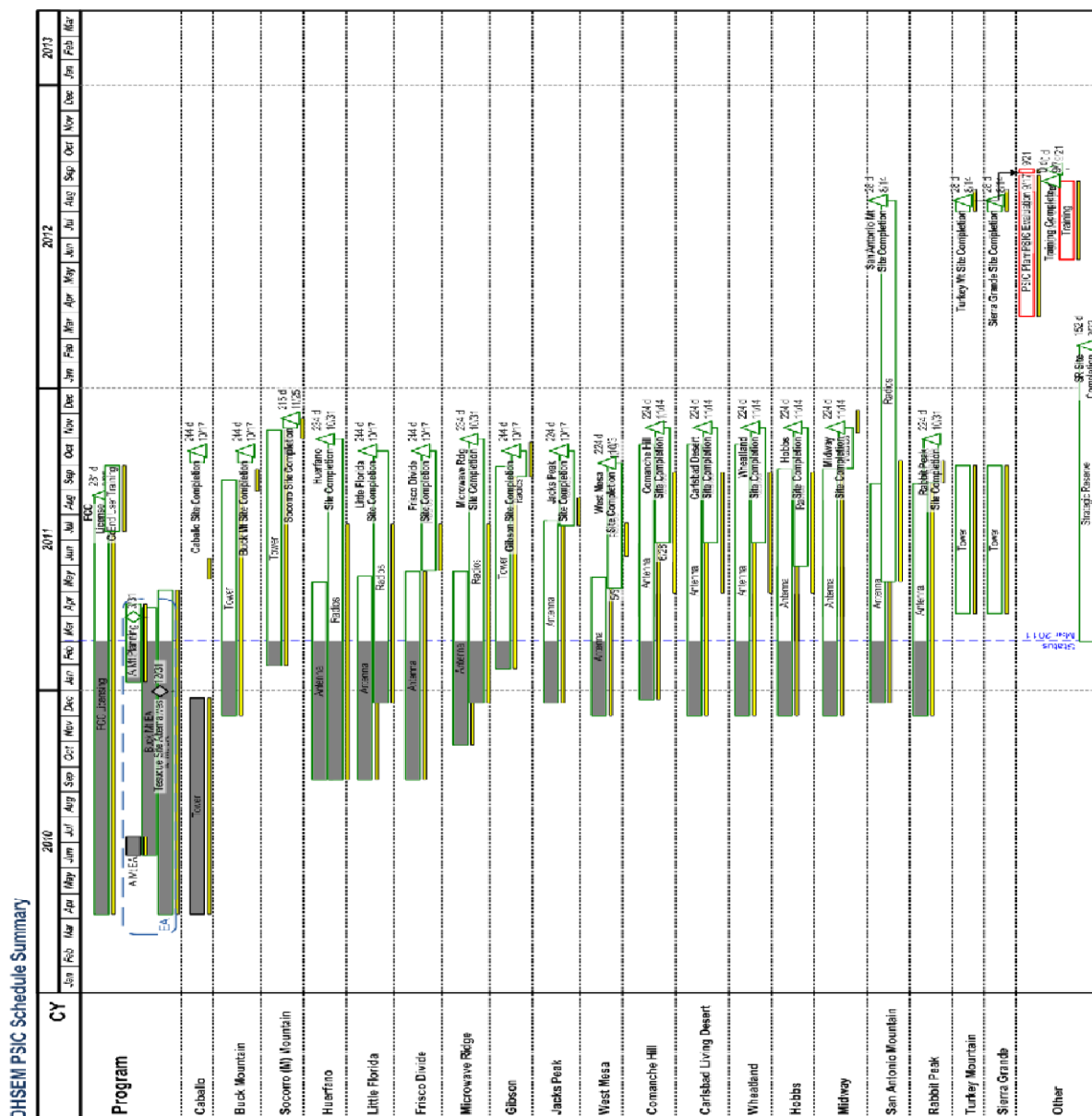
As part of the EMRS implementation, DHSEM will conduct an inventory of all assets at each tower site and utilize the DoIT asset inventory database program in place to track these assets. If DHSEM is allowed to utilize the existing database program for the equipment associated with the EMRS program, they will be willing to discuss providing support for the costs associated with the system maintenance.

Contractor Support

DHSEM has selected the Northrop Grumman Corporation to provide program management support, oversight, training, and exercise planning during the implementation phase of the EMRS system. Engineering support for the EMRS project will be provided by INX, Inc.

Status 1st Quarter 2011

The following is the current schedule for implementation under the Public Safety Interoperable Communications (PSIC) Grant Program. Environmental assessments for all sites have been submit with all but 2 being approved. Those should be approved upon completion of the final site design. The implementation for most sites will be complete by the end of the 2011 calendar year. The remaining sites require additional infrastructure upgrades that will require addition time to complete. During the implementation phase training is being developed and will be conducted throughout the state in workshops and exercises.



The attached presentation will also provide information about the program.

Budget Status

The following table is the data reflected in the Biannual Investment Status Report that is required for the PSIC Grant Program. Program Expenditures are tracked by investment and FEMA categories as shown below. A detailed expenditure report is submit as the Funding is done as a reimbursement as is the process for other DHS and Commerce Funds.

Budget Analysis for DHSEM Budget FY 2012 - 2013 to Expended to Date (federal only)				
Note: Budget includes past expenditures through 12/31/10				
	DHSEM PSIC Budget for IJ 1 (Federal)	Expended to date (Federal)	IJ 1 Budget Remaining (Federal)	Approved BISR Budget
A - Planning Costs	\$ 1,323,039.84	\$ 367,259.31	\$ 955,780.54	\$ 1,323,000.00
B - Acquisition Costs	\$ 4,717,307.30	\$ 1,740,136.64	\$ 2,977,170.66	\$ 4,717,275.00
C - Deployment Costs	\$ 755,983.95	\$ 0.00	\$ 755,983.95	\$ 756,000.00
D - Training Costs	\$ 850,443.90	\$ 361,396.37	\$ 489,047.53	\$ 850,500.00
E - Management and Admin Costs	Included in Planning and Acquisition Costs			
Total	\$ 7,646,775.00	\$2,468,792.32	\$5,177,982.68	\$7,646,775.00
	DHSEM PSIC Budget for IJ 2 (Federal)	Expended to date (Federal)	IJ 2 Budget Remaining (Federal)	Approved BISR Budget
A - Planning Costs	\$ 0.00	\$ 0.00	\$ 0.00	
B - Acquisition Costs	\$ 400,144.29	\$ 3,063.00	\$ 397,081.29	\$ 400,000.00
C - Deployment Costs	\$ 241,805.71	\$ 0.00	\$ 241,805.71	\$ 241,950.00
D - Training Costs	\$ 0.00	\$ 0.00	\$ 0.00	
E - Management and Admin Costs	Included in Planning and Acquisition Costs			
Total	\$ 641,950.00	\$ 3,063.00	\$ 638,887.00	\$ 641,950.00
	Total DHSEM PSIC Budget (Federal)	Total Expended to date (Federal)	Total Budget Remaining	Approved BISR Budget
A - Planning Costs	\$ 1,323,039.84	\$ 367,259.31	\$ 955,780.54	\$ 1,323,000.00
B - Acquisition Costs	\$ 5,117,451.59	\$ 1,743,199.64	\$ 3,374,251.96	\$ 5,117,275.00
C - Deployment Costs	\$ 997,789.66	\$ 0.00	\$ 997,789.66	\$ 997,950.00
D - Training Costs	\$ 850,443.90	\$ 361,396.37	\$ 489,047.53	\$ 850,500.00
E - Management and Admin Costs	Included in Planning and Acquisition Costs			