Nebraska Wireless Interoperable

Network (N-WIN) Council

2010 Annual Report

February 2011

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N-WIN Council Members

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Executive Order No. 08-03 (December 17, 2008) established the Nebraska Wireless Interoperable Network (N-WIN), membership of the N-WIN Council, and its leadership responsibilities for interoperable public safety communications. The Executive Order charged the N-WIN Council with providing an annual report containing a current assessment of the Nebraska Wireless Interoperable Network that included recommendations for operation of and enhancements to the system. This report fulfills that requirement.

Background

The nine-member N-WIN Council consists of one appointee each from the following entities: A chairman appointed by the Governor; representatives designated by the Nebraska State Patrol; Nebraska Game and Parks Commission; Nebraska Fire Marshal's Office; Nebraska Office of the Chief Information Officer; Nebraska Emergency Management Agency; Nebraska Public Power District; and two people appointed by the Nebraska Council of Regions. The Nebraska Emergency Management Agency and the Office of the Chief Information Officer are also charged with providing administrative and technical support to the N-WIN Council.

The primary purpose of N-WIN Council is to complete the charges listed in Executive Order No. 08-03. Accordingly, the Council will:

- Provide for the governance and policy level direction related to the planning and decisions regarding development and operation of the N-WIN;
- Provide leadership regarding the development of public safety communications within Nebraska;
- Adopt bylaws for the operation of the Council;
- Develop strategies and recommendations to improve operations of the N-WIN, including consultation with the Office of the Chief Information Officer (OCIO) regarding the use of new technology as it becomes available;
- Promote interoperability for public safety communications within Nebraska, and with border states;
- Provide oversight for the development of protocols, standard operating procedures and guidelines for use of the N-WIN;
- Coordinate and provide planning, training and exercise opportunities related to communications interoperability for all necessary and authorized public safety practitioners;

- Establish the terms of agreements and enter into agreements for public safety entities to operate on the N-WIN, in conjunction with the Office of Chief Information Officer (OCIO), when such arrangements are practical and in the best interests of the State and the regions; and
- Develop recommendations and strategies for best utilization of public funds, including grants, to improve public safety communications in Nebraska.

The N-WIN Council identified **five key goals for their work in 2010**:

1. Develop a simplified visual depiction of the roles and responsibilities of the Nebraska Council of Regions (NCOR), the N-WIN Council, and member agencies in conjunction with entities charged with providing support to the N-WIN Council to foster communication among all collaborators.

2. Develop non-technical shared definitions using plain language to be agreed upon by NCOR and the N-WIN Council, and then widely distribute.

3. Develop an integrated project schedule incorporating work tasks for each of the elements of the N-WIN project to ensure all required procedures are completed.

4. Oversee the development of administrative procedures and processes for use of N-WIN and for potential expansion of the user base. This includes development of a business plan for the overall network development and sustainment. Conditions and parameters of terms of agreements with public safety entities to use the network can then be established which include verifiable costs for connectivity with the state network. A similar model will need to be established for the regional point-to-point network and its implementation across Nebraska rounding out statewide interoperability. This will increase accountability among collaborators by creating objective measures of progress that are subject to audit and reporting. This will be a dynamic document due to the changing business needs of interoperability.

5. Delegate responsibility to the State User Group for developing operational procedures relevant to use of the system with criteria to ensure compatibility with other N-WIN components where necessary.

Cooperation with the Nebraska Council of Regions (NCOR) was instrumental to achieving the N-WIN goals in 2010. In addition to strong NCOR support and participation, three state groups provided support to N-WIN in 2010: the Nebraska

Emergency Management Agency (NEMA), the Office of the Chief Information Officer (OCIO) and the University of Nebraska Public Policy Center (PPC).

NEMA assisted with N-WIN Council activities by: 1) providing administrative support for Council meetings including arranging for meeting space, providing copies of meeting materials, and creating sign-in sheets to record attendance of meeting participants and 2) providing resources for and coordination of environmental assessments for all installation of communication equipment purchased with federal funds. NEMA also agreed to take responsibility for coordinating exercise opportunities related to interoperable communications for Nebraska public safety practitioners.

The OCIO provided technical support to the N-WIN Council. The OCIO gave regular reports to the N-WIN Council about the development of interoperable communication infrastructure and implementation of the statewide radio network in coordination with NPPD. The OCIO is also responsible for coordinating the statewide interoperability strategy with NEMA, NOCR and regional leadership groups.

The University of Nebraska Public Policy Center (PPC) provided planning assistance for the N-WIN Council over the past year through agenda development, meeting facilitation, document preparation, note taking, and maintaining a website to centralize communication related to N-WIN and related statewide activities (http://www.homelandplanning.nebraska.edu). The PPC also assisted work groups established by the N-WIN Council by providing meeting support and migrating work group products to fit recommended federal templates for shared network/shared channel usage.

2010 Milestones

Implementation of the Statewide Radio System (SRS). The statewide radio system, a VHF P25 digital trunked land mobile radio system, is a partnership between the State and Nebraska Public Power District and was installed in four phases. Phases became activated when towers were turned on and communication between sites was able to be transmitted. Phases became operational when state agencies are able to move daily operational traffic to the new network.

- Phase I covering the Nebraska Panhandle was active in September 2009 and became operational in March 2010.
- Phase II covering west central Nebraska was activated in March 2010 and became operational by June 2010.
- Phase III activations covering central and eastern Nebraska were completed in October 2010.

- Phase IV will complete the rest of eastern Nebraska and became active in December 2010 and is expected to be operational near the end of the first quarter 2011.

Establishing Statewide Radio System Standard Operating Procedures. The N-WIN Council worked collaboratively with the State Users Group and other stakeholders to develop Standard Operating Procedures (SOPs) for the Statewide Radio System. The Statewide Radio System (SRS) standard operating procedures provide written documentation for all subscriber organizations that are affiliated with the SRS on the proper use of the SRS and interoperability of the network. The standard operating procedures apply to all subscriber organizations, guest organizations, and managing organizations, including staff of the organizations that use, manage, and service the system. The SOPs address responsibilities of the various organizations involved in the state radio system, establish acceptable use policies, provide procedures for routine and emergency radio traffic, provide for operation of the SRS outside of local areas, create procedures for planned events and heavy radio traffic conditions, and provide controls and measures for enforcing the SOPs. The N-WIN Council approved the SRS SOPs at their October 29, 2010 meeting.

Establishing Draft N-WIN Council Procedures. The N-WIN Council developed draft procedures for the N-WIN Council in 2010. The draft procedures provide written documentation for the N-WIN Council to conduct business in accordance with its bylaws and to determine how eligible organizations will access the N-WIN system. The draft procedures provide methods for conducting N-WIN meetings, processes for establishing committees and presenting reports, procedures for managing relationships among SRS subscribers, procedures for appeals, and processes for authorizing system access. The N-WIN Council developed and reviewed multiple drafts of the procedures in 2010, and will vote on the final procedures early in 2011.

Initial Development of a Funding Model. The N-WIN Council made substantial progress on developing a funding model for participation in the statewide radio system. The statewide land mobile radio system was designed to serve the needs of the Nebraska Public Power District (NPPD) and the state government of Nebraska, as well as other organizations such as first responders, state & local officials, and local utilities. Rather than build two separate radio systems, state and NPPD officials entered into an agreement to equally share the cost of developing the statewide radio network. The funding mechanism for the statewide radio system was designed to be as simple as possible, match funding to utilization and promote utilization of the system. It was not intended as a cost recovery mechanism for the initial construction of the system, but

instead as a funding mechanism to ensure its long-term sustainability. The following considerations were used in developing the initial funding model:

- Once the system is installed, it begins to depreciate. Defined as an expense recorded to allocate a tangible asset's cost over its useful life, depreciation will be one of the costs allocated to users. For the initial statewide system that is currently being installed, a depreciation period of 15 years will be assumed (on a straight-line basis). If additional capacity or upgrades are added, their annual depreciation amounts will also become allocated costs to users. The depreciation periods of these additions/upgrades will be determined when they are placed in service.
- Annual Operating &Maintenance costs will be an allocated cost.
- Costs will be allocated across all radios that utilize the system.
- The "footprint" of the statewide network that is utilized by a user will be taken into account in the cost allocation. The intent of this mechanism is to recognize differences between users that will utilize the entire statewide network (such as NPPD and the State Patrol) and users that might only use a portion (such as a municipality or county). However, in no case shall a user's utilization be assumed to be less than a defined percentage of the footprint. NPPD and the state reserve the right to determine the minimum percentage and to adjust it at any time.

Work will continue in 2011 to refine and implement the funding model.

Development of an Organizational Chart Portraying Roles and Responsibilities for the Nebraska Wireless Interoperability Network. The N-WIN Council developed an organizational chart portraying the relationships among the N-WIN Council, NCOR, and state agencies in relation to system components. The draft chart was presented to NCOR, and NCOR proposed changes and upgrades. The organizational chart will be used to communicate the N-WIN system to potential users and stakeholders and will be included in the State Communications Interoperability Plan (SCIP) and the state and regional Tactical Interoperability Communications Plans (TICPs).

Development of Communications about the N-WIN System. Recognizing concerns about the implementation of the Nebraska Wireless Interoperable Network System such as local law enforcement having difficulty monitoring Nebraska State Patrol Communications, the N-WIN Council developed information sheets to explain the components of the system. This communication was targeted toward law enforcement and fire departments and included information about the benefits of N-WIN, the phases of implementation and frequently asked questions such as how the system will be managed, who will participate on the system, and how local responders will be affected

by roll out of the system. The N-WIN Council has continued to refine its communication strategy to reach other stakeholders such as potential users and public officials.

Coordination with NCOR on Other Components for Interoperable Communications. The N-WIN Council worked collaboratively with NCOR to monitor implementation of other components of the wireless interoperable network including the following:

1) The *Nebraska Regional Interoperability Network (NRIN)***,** an Internet Protocol (IP) high-speed microwave system on over 200 towers across Nebraska organized in eight regional, ringed networks that will carry data linking all aspects of emergency communications, including statewide voice, data, wireless and video data. A contract was awarded to Communications Services, Inc. in August 2010. Implementation in 2010 focused on the Panhandle and North Central regions. Work included developing the system design, identifying and assessing tower locations, identifying alternatives when planned towers were not feasible, negotiating rates for usage of towers and other structures, and identifying storage and staging locations for equipment.

2) The *Nebraska Mutual Aid Radio System*, a planned network of analog radio base stations using common, nationally accepted frequencies to provide radio coverage across the state controlled by local/regional system operators. NCOR developed specifications for mutual aid and incorporated these into draft Standard Operating Procedures (SOPs). Regions and local areas assessed their needs related to upgrading public safety answering point equipment and connections to work with the statewide network for the purpose of achieving interoperability. Two pilot programs for mutual aid began planning and implementation in 2010 – one in the Tri-County Planning, Exercise and Training (PET) Region and one in the South Central PET Region.

3) *Paraclete*, a computer software system that enables local, regional, and state emergency responders to communicate with one another using disparate radio systems in the event of a local emergency. Decisions about where Paraclete equipment should be located have been made by local emergency management and communications personnel in consultation with the State personnel working on this initiative. NCOR produced guidance for Memoranda of Understanding (MOUs) for sharing frequencies in Paraclete. NEMA designed a process for resolving technical issues with Paraclete, developing a user manual, and providing training for dispatchers, supervisors, and emergency managers across the state.

Challenges

N-WIN involved multiple systems and networks and a variety of stakeholders and participants. Given this complexity, a significant challenge this year has been defining the scope of N-WIN and obtaining consensus on the role of N-WIN Council and its relationship with other councils (e.g., NCOR), state agencies, and the overall interoperability plan. The N-WIN Council has made significant progress in identifying roles and responsibilities among partnering entities, but additional work in this area will be warranted as the network evolves and the state moves toward interoperability.

Another challenge has been in the implementation of the N-WIN infrastructure. The large scope and size of the project has been an issue. There have been some delays in the four phases of the State Radio System development which, in turn, has resulted in delays in bringing sections of the system on line. Given the complexity of the N-WIN system, transparency of project implementation and status has been an issue. Other aspects of system development have been challenging as well (for example, developing a funding model that balances the need to cover system costs and ensuring the system is affordable enough to maximize user participation).

The N-WIN project involved a significant amount of activity and information being developed in each of the four components of the Network. Communicating this information effectively to all stakeholders involved in the N-WIN project has been challenging. Persons involved in the N-WIN development varied in their levels of experience, technical knowledge and operations expertise. Given these diverse backgrounds and differing communications cultures and procedures among state and local system users, this challenge is not unexpected. However, effective communication with all stakeholders is vital for this project to make its expected progress. For this reason, effective, clear communication pathways and practices will be a high priority for the N-WIN Council in 2011 as this project moves toward all-phase completion.

Recommendations

In 2011 the N-WIN Council plans to further clarify and implement its oversight role to strengthen the coordination and collaboration needed to implement statewide interoperability. Five recommendations are offered to move the state toward full interoperability:

1. Ensure transparency in development of the interoperability network that facilitates regional network development.

2. Provide leadership for development of administrative systems for subscribers of N-WIN and champion the change to plain speak radio traffic.

3. Establish a functional and sustainable funding model for the State Radio System (SRS).

4. Continue to clarify the roles and responsibilities the N-WIN Council, NCOR, and member agencies to foster communication among all collaborators.

5. Understand and develop roles for interoperability

6. Develop effective communications targeted toward potential users and other stakeholders to increase understanding about N-WIN.

7. Build relationships with contiguous states to understand their experiences in governance and oversight of interoperable systems and to develop functional interstate interoperable communications.