

Allied Radio Matrix for Emergency Response (ARMER) Standards, Protocols, Procedures

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1. Purpose or Objective

The purpose of this standard is to establish an organizational structure for the coordination of and access to public safety communication resources incorporated into Minnesota's Strategic Technology Reserve (STR). The concept of an STR was established as a requirement to the Public Safety Interoperable Communication (PSIC) grant program in 2007, where federal grant funds were specifically earmarked for the establishment of an STR capability in each state. The basic purpose of the STR, articulated in the PSIC grant, was to provide communication resources that can be deployed in situations where there is a catastrophic loss of the existing public safety communication capabilities. In establishing this STR capability, the Statewide Emergency Communications Board (SECB) seeks to coordinate new and existing resources to address the following requirements:

- Provide communication resources that can be deployed in situations where there is a catastrophic loss of existing public safety communication capabilities.
- Provide communication resources that can be used to supplement existing public safety communication resources where an event or natural disaster requires more resources and capability than are currently available locally or regionally.
- Provide a transportable communications resource that can be used to support operations of local public safety officials responding to a serious event or natural disaster to another state.

To accomplish these purposes and objectives, this standard seeks to identify communication resources (existing and new) that will be considered part of Minnesota's STR capability and articulate procedures for the maintenance and deployment of those resources.

2. Technical Background

▪ Capabilities

The following communication resources are incorporated into Minnesota's STR plan:

- Radio Caches - Regional radio caches of 30 700/800 MHz portable radios will be established in every region of the state. Other radio caches will be identified and incorporated as STR resources as they are identified and should be listed in each region's Tactical Interoperable Communications Plans (TICPs).
- Transportable Towers and Repeaters - Transportable 50' towers and repeaters have been established in every region of the state. Repeaters are equipped to operate on at least one VHF frequency pair and on multiple 800 MHz interoperability frequency pairs.
- Satellite enabled ARMER base radio site (SATCOW) - The existing deployable satellite enabled ARMER base radio site, established by the Minneapolis/St. Paul Urban Area Security Initiative (UASI), is owned and operated by the Hennepin County Sheriff's Office (HCSO) Communications Division and provides the ability to bring a trunked 800 MHz ARMER radio site to any location for primary or supplemental communications.
- Satellite enabled Remote Communication Platform (RCP) - The Minnesota National Guard has assembled three RCP units capable of providing basic communications at an incident site. These units have enhanced IP-based backhaul capability over satellite links through which telephone communication, video conferencing, e-mail services, and access to local computer networks might be established in response to a major event or other natural disaster.
- A radio cache and transportable tower and repeater shall be provided for each Regional Radio Board (RRB) region and shall be referred to as the Basic Regional STR component.

▪ Constraints

The resources incorporated into Minnesota's STR are individually owned, operated, and maintained by various local units of government and were acquired through different funding sources. This also includes the Minnesota National Guard Remote Communication Platforms. To the maximum extent possible, this standard seeks to coordinate the access to and use of these resources to address STR requirements. The continued maintenance and coordination of the various elements of the STR will require continued local and regional support for the STR requirements articulated by the SECB, continued support for training and exercise of STR resources, and a shared commitment to fund the maintenance and operating costs of those resources.

Minnesota Statutes Chapter 12 provides a comprehensive emergency response framework for disaster response between units of government. By statute, the deployment of National Guard personnel and resources must be ordered by the governor and coordinated through Department of Public Safety (DPS), Division of Homeland Security and Emergency Management (HSEM), Executive Order 07-14. Similarly, deployment costs and operational costs of the higher-tier resources (SATCOW and RCP) can significantly complicate access decisions, due to the fact that reimbursement arrangements may need to be addressed at the time STR resources are requested.

3. Operational Context

Minnesota is in the process of implementing the ARMER system, which is a statewide, shared public safety communication infrastructure. That system is designed to a very high level of reliability. In formulating STR requirements, there was recognition of the potential risks and the impact of those risks to existing communication infrastructure. Where local units of government rely upon local systems, the ARMER system provides an alternate communication capability if there were a loss of existing communication infrastructure. Where ARMER provides both state and local communication infrastructure, impacts would still be localized, as it is unlikely that any potential event could affect more than a few base radio sites. The STR requirements articulated above under the purpose and objectives are designed to achieve a balance between potential risks and the simple increased need for communication capability that might naturally occur in connection with any significant event or disaster.

Minnesota is developing Tactical Interoperable Communication Plans in each region and providing Communication Leader (COML) training. It is anticipated that an STR Annex will be added to each TICP and that COMLs in each region will be instrumental in maintenance of STR resources in each region. The continued maintenance and periodic use and exercise of resources and plans is essential to the timely and appropriate deployment of these resources.

4. Recommended Protocol and Standard

A basic STR component will be acquired and allocated to each RRB under the following terms and conditions:

- The RRB, or an entity associated with the RRB, agrees to provide for the maintenance of the equipment, which includes the following:
 - Designate primary and alternate contact points for access to the equipment
 - Designate at least one person who can review operational requirements for the equipment before deployment
 - Maintain the equipment in an appropriate secure environment
 - Provide reasonable operational maintenance, based upon SRB Standards, of the equipment to ensure its availability

- The RRB will develop local standards for the use of the basic STR component within the region, which may include the following:
 - Designate ownership of the resource, where the RRB determines that ownership of the basic STR component should be transferred to an entity associated with the RRB
 - When to activate/deploy to a situation within the region, including public events, disaster exercises with a communication component, equipment training and other circumstances deemed appropriate by the RRB
 - Any prerequisites to the use and deployment of the basic STR component outside the region

Other STR components (SATCOW, RCP) are individually owned and operated as indicated above. To the extent possible, the owners of those resources have developed local guidelines or standards to address the issues articulated above. Those guidelines or standards are incorporated into the resource specific standards that follow.

5. Recommended Procedure

The following standards and documents outline the procedures and requirements that will be applied to each component of the STR:

Standard	STR Component
3.33.0	Establishing STR
3.33.1	STR Radio Caches including Appendix A STR Zone Fleetmap
3.33.2	STR Transportable Tower/Repeaters
3.33.3	STR Satellite-enabled ARMER base radio site
3.33.4	STR Satellite-enabled Remote Communication Platform

The individual standards for each STR component shall address the following requirements:

- Requirements to maintain the STR component
- Guidelines for activation of the STR component outside region
- Technical capabilities required to operate the STR component
- Operational considerations and limitations for the use of STR component
- Requirements for each component to be equipped with operation guides and manuals as necessary for the operation of the equipment

6. Management

The Interoperability Committee (IOC) of the Statewide Emergency Communications Board has established a permanent STR subcommittee to establish and coordinate the resources incorporated into Minnesota's STR capability. The STR subcommittee shall report upon the status of this standard and the status of all STR resources to the SRB at least annually, and more often where a deficiency or problem is found to exist.