

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

Document Section:	<b>4 Maintenance</b>	Operations and Technical Committee Recommendation Date:
Sub-Section:	<b>State TBD</b>	
Procedure Title:	<b>ARMER System Vendor Support Services Contract</b>	
Date Established:	<b>10-06-08</b>	Statewide Radio Board Approval Date:
Replaces Document Dated:	<b>N/A</b>	
Date Revised:		

### **1. Purpose or Objective:**

To establish policy & procedures for the ARMER system vendor support services contract for the backbone infrastructure and the local subsystems connected to the backbone infrastructure.

### **2. Technical Background:**

#### **▪ Capabilities**

The system vendor offers a number of support services. In the initial deployment of the system in the Metro Area the vendor bid the full suite of services and the system managers reviewed these services and selected the services they felt were outside the capabilities of the owning agencies technical staff. These selected services were reviewed and approved by the Metropolitan Radio Board. Those services included:

- Two (2) dedicated field service technicians
- Network monitoring services
- Dispatch services
- On Site infrastructure response
- Technical support services
- System Software Subscription Agreement
- Subscriber Software Subscription Agreement

After gaining experience with the system and learning how the provided services performed the system managers determined a number of the services were not required. These changes were presented to and approved by the Metropolitan Radio Board. The current vendor support services contract includes the following services:

- Dedicated field service technician
- Technical support services
- System Software Subscription Agreement
- Subscriber Software Subscription Agreement

- To have access to onsite technical support for day to day and emergency system support.
- To have access to factory technical support for system problems

If the system is left at a level of software no longer shipping from the factory it becomes difficult to expand or add new subsystems. A new addition may require upgrading the entire backbone before the addition can occur.

There is a cost to the system support.

The system vendor has also included the pricing for the contract to include certain of the subscriber radios in this support agreement. There is an additional charge per unit for this service.

The system vendor has also included remote network monitoring services as an option for agencies interested.

#### **4. Standardized Policy**

Mn/DOT will work with the system managers and the system vendor to establish the level of vendor support and determine the yearly costs for the requested services. This will be presented to the Statewide Radio Board.

Statewide Radio Board approval is required for the continuation and service levels of the recommended vendor support contract.

If approved by the Statewide Radio Board all backbone connected equipment is required to be part of the vendor support services contract.

Subscriber radio equipment is not required to be included in the vendor support services contract the contract, inclusion is at the discretion of the owning agency.

Agencies owning equipment included in the vendor support services are responsible for the costs associated the equipment they added. This includes any local agency owned subsystems or sites, channel additions, connected consoles and included subscriber units.

All contracts to be part of the ARMER system will include a provision for the payment to Mn/DOT for the contracting agencies share of the Statewide Radio Board approved vendor support services contract.

#### **5. Standardized Procedure:**

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

Document Section:	<b>3 Interop</b>	Operations and Technical Committee Recommendation Date:
Sub-Section:	<b>State TBD</b>	
Procedure Title:	<b>ARMER Transportable Site Equipment</b>	
Date Established:	<b>10-06-08</b>	Statewide Radio Board Approval Date:
Replaces Document Dated:	<b>N/A</b>	
Date Revised:		

### **1. Purpose or Objective:**

To establish policy & procedures for the deployment and use of temporary transportable ARMER site equipment.

### **2. Technical Background:**

#### **▪ Capabilities**

Transportable repeaters can be deployed anywhere in the state to provide radio coverage where the ARMER system has lost or has limited coverage.

The transportable repeater can operate in a stand alone site trunking mode or if there is T1 connectivity to the MSO it can be connected into the ARMER system and be part of the wide area network.

Statewide FCC licenses are available that allow this transportable repeater to be operated anywhere in Minnesota.

#### **▪ Constraints**

The transportable equipment takes time to move and set up.

If not properly set up the transportable repeater could interfere with the ARMER system and subscriber radios on the ARMER system.

The ARMER Frequency plan reuses frequencies across the state. There are no clear frequencies that can be licensed across the state for

### **3. Operational Context:**

The transportable repeater is a useful tool, but if not deployed properly it could actually

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

Document Section:	<b>3 - Interoperability Guidelines</b>	Operations and Technical Committee Recommendation
Sub-Section:	<b>State 3.25</b>	Date:
Procedure Title:	<b>Radio to Radio Cross Band Repeaters</b>	Statewide Radio Board Approved Date:
Date Established:	<b>1/30/01</b>	
Replaces Document Dated:	<b>5/24/01</b>	
Date Revised:	<b>10/14/08</b>	

### **1. Purpose or Objective:**

Establish procedures for the use of temporary radio system to radio system repeaters for interagency intercommunications in a local area.

### **2. Operational Background:**

#### **▪ Capabilities**

There are several devices available for purchase that can interconnect to mobile and/or portable radios in any location. When these devices receive a transmission on one radio, they key the transmitter on the other radio and feed the audio from the receiving radio to the transmitting radio to be transmitted. The communications can actually go in both directions but only one direction at one time. The two radios may be two VHF radios, a VHF and an 800 MHz radio, or any other two radios.

#### **▪ Constraints**

Care must be taken in cross band repeating because all radio traffic on both communication channels appears on each of those communications channels and communications channel congestion can occur. In addition, care must be taken in cross band repeating to avoid confusion when traffic from another radio system suddenly appears on a communications channel.

Care must also be taken to assure that only one radio to radio cross band repeater is in use in a given area on at least one of the communications channels or a significant amount of collision interference will occur.

In any patching process, care must be taken to avoid passing through the digital modulation process in radios more than one time to avoid severe degradation of audio quality.

**6. Management:**

The agency that owns and maintains the radio to radio cross band repeater equipment shall be responsible for obtaining the necessary authorizations for specific conventional radio channels and 800 MHz trunked radio talk groups that can be linked together in the radios on each side of the cross band repeater.

The manager of the agency that owns a radio to radio cross band repeater shall prepare detailed procedures for the setup and use of those cross band repeaters that are consistent with this procedure. The manager of the agency that owns the radio to radio cross band repeater shall be responsible for preparing and conducting training of personnel who may become incident commanders in the procedures and in the conventional radio channels and 800 MHz trunked talk groups that are preauthorized for cross band repeating.

No special licensing of the cross band repeater is required, as the owners of the radios that will be used with the cross band repeaters will have licenses for the conventional radio channels and the 800 MHz trunked radio facilities that will be accessed by those radios.