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**AMENDMENT  
to the  
Technical Plan**

**for ARMER**

**800 MHz Trunked Radio System Participation**

**by**

**Mower County, Minnesota**

Submitted to:  
Southeast Minnesota Radio Board  
Regional Advisory Committee  
Updated January 14, 2015

**MOWER COUNTY**

Sheriff's Office – 201 1st St. N.E. – Austin, MN 55912



*Allied Radio Matrix for Emergency Response*



This document has been prepared under contract by PSC Alliance Inc. for the benefit of Mower County, Minnesota.  
Questions concerning content of the plan may be directed to: Jeff Nelson, PSC Alliance Inc. at the address shown above  
or via email: [jeff.nelson@psc Alliance.com](mailto:jeff.nelson@psc Alliance.com).

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**SECTION 1: Executive Summary & Overview of Mower County 800 MHz Plan**

The Statewide Radio Board previously approved Mower County's ARMER participation plan in 2013. That prior plan added no channels to the MnDOT backbone but did, as a placeholder, identify the possibility of a future site in Austin that had not been funded at that time. Since the adoption of that plan Mower County and City of Austin officials using the ARMER system found coverage in the City of Austin unsatisfactory for portable radio users.

In 2014 PSC Alliance was engaged by Mower County and the City of Austin to assist with site selection and implementation planning/oversight to improve ARMER in-building performance within Austin. PSC prepared a series of coverage options and also evaluated coverage prediction maps furnished by Motorola. Further, PSC coordinated acquisition of an 800 MHz repeater for deployment in a field test environment to allow public safety users to evaluate performance in a conventional, P25, single channel mode from the recommended site. The extent of unreliable in-building communication is widespread enough within Austin that treatment with in-building enhancement systems is impractical across the community.

Mower County now requests that the Southeast Regional Radio Board approve the addition of a six (6) channel ARMER ASR site in Austin as a local coverage and capacity enhancement. Upon approval the ASR site will be installed at the 14<sup>th</sup> Street Water Tank owned by Austin Utilities.

**SECTION 2: LOCAL ENHANCEMENT TECHNICAL DETAILS**

**Proposed Frequencies**

PSC has filed for and received NPSPAC approval and has filed FCC license application on the County's behalf for the six (6) 800 MHz frequencies shown in Attachment 1 to this plan.

**Proposed Site Demographics**

Site demographics are as shown in Attachment 1 to this plan.

**Existing Dispatch Point**

Public Safety dispatching for Mower County, including ARMER access, already originates from the Mower County Law Enforcement Center. Operation on the ARMER system from this dispatch center was established as a result of SECB plan approval referenced in section 1 using MCC 7500 consoles. At the conclusion of this project, console connection route redundancy will be established at certain locations where traffic is presently carried in a single microwave hop. No additional console ports at the Zone 3 master site will be required. PSC has consulted with MNDOT concerning the console and ASR site redundancy.

**Proposed Site Connectivity**

PSC proposes to connect the new ASR site with RF link redundancy. An existing county owned microwave link connects the 14<sup>th</sup> Street Water Tank to the Elkton site. A new 6 GHz microwave link is being added to connect the 14<sup>th</sup> Street Water Tank to the Oakland Woods ARMER site. This link will be used for one (of two) links for both the ASR trunking site and the console redundancy. MnDOT has approved this connectivity plan.

**PSAP Connectivity**

As noted above.

**PSAP Audio Logging**

No change from Mower County's previously approved ARMER participation plan.

**ATIA Data Requirement**

No change from Mower County's previously approved ARMER participation plan.

**PSAP Backup & Redundancy**

No change from Mower County's previously approved ARMER participation plan.

**Subscriber Radio Fleet**

No change from Mower County's previously approved ARMER participation plan.

**Interoperability**

No changes to interoperability are expected via the addition of this ASR sub site or the console redundancy.

**Alarming & Monitoring**

Existing, locally monitored, alarm facilities will be connected to critical equipment at the 14<sup>th</sup> Street Water Tank site.

**Fire Alerting & Paging**

No change from Mower County's previously approved ARMER participation plan.

**CCGW Requirements**

No change from Mower County's previously approved ARMER participation plan.

## **Mower County Technical Plan – Austin Addition 2015**

### **Fleet Map**

No change from Mower County's previously approved ARMER participation plan.

### **In-Building Radio System Enhancements**

No change planned at this time from Mower County's previously approved ARMER participation plan.

### **Estimated Schedule of Local Enhancement**

The currently identified schedule targets for this project are:

<b>Target Time Frame</b>	<b>Activity</b>
February-March, 2015	Antenna & Site Prep Work ASR & Microwave Installation
April, 2015	Testing & Optimization
May, 2015	ARMER Conversion for City of Austin.
June, 2015	Beneficial use of new ASR site in Austin

### **Training**

No change from Mower County's previously approved ARMER participation plan.

### **System Maintenance**

Mower County will coordinate ASR site equipment maintenance at the 14<sup>th</sup> Street Tank site through suitable agreement(s) with a qualified vendor and/or MnDOT. Link equipment, VHF equipment, and other specialty systems will remain within the maintenance purview of the County; details will be determined in the future.

### **System Administration**

No change from Mower County's previously approved ARMER participation plan.

### **Amending Cooperative Participation Agreement**

This plan amendment seeks authority from the SE Minnesota Regional Radio Board (SERRB) to modify the Cooperative Participation Agreement and to authorize the appropriate official of the Board to execute the Agreement based on this plan.

### **Requested Grant & Bond Funding**

Mower County requested \$138,066 from the State of Minnesota in SHSP grant funding and awaits word of approval. If approved at this level the County would be responsible for a 50% match of this amount.

## **Mower County Technical Plan – Austin Addition 2015**

### **SUMMARY**

Mower County respectfully requests approval to add one (1) ASR site in Austin Minnesota subject to the description contained in this Technical Plan amendment 1.

**Attachment 1**



**Region 22 Minnesota Review Committee**

January 9, 2015

Jeff Nelson  
PSC Alliance  
7900 International Drive, Ste 300  
Bloomington, MN 55425

Subject: Mower County NPSPAC License Approval

The region 22 NPSPAC Committee has reviewed and approved Mower County to permanently license the following NPSPAC frequencies:

County	Site	Channel #	Frequency	Latitude	Longitude	Antenna ht. (m)	ERP (W)
Mower	Austin	54	851.7125	43-40-06.7N	92-59-33.3W	60	260
Mower	Austin	70	851.9125	43-40-06.7N	92-59-33.3W	60	260
Mower	Austin	85	852.1250	43-40-06.7N	92-59-33.3W	60	260
Mower	Austin	114	852.4875	43-40-06.7N	92-59-33.3W	60	260
Mower	Austin	136	852.7875	43-40-06.7N	92-59-33.3W	60	260
Mower	Austin	150	852.9625	43-40-06.7N	92-59-33.3W	60	260

Please submit the applications and this approval letter to your designed frequency coordinator to complete FCC licensing.

Please contact me at (651) 234-7963 or [tim.lee@state.mn.us](mailto:tim.lee@state.mn.us) if there are further questions.

Sincerely,

Tim Lee, P.E.  
Region 22 NPSPAC Chairman  
1500 W. County Road B2  
Roseville, Minnesota 55113