

Allied Radio Matrix for Emergency Response (ARMER)

Standards, Protocols, Procedures

Document Section 3	Interoperability Standards	Status: Complete
State Standard Number	3.16.6	
Standard Title	800 MHz Statewide Uniform Interoperability Radio Zones	
Date Established	3/28/2013	SRB Approval: 3/28/2013
Replaces Document Dated		
Date Revised		

1. Purpose or Objective

The purpose of this standard is to establish policy and procedures for the implementation of two 800 MHz uniform interoperability zones in all subscriber radios throughout the state. This policy will guarantee standardized Statewide and Nationwide interoperable communications capabilities for all service branches.

This uniformity will provide dispatch centers, Incident Commanders (ICs), and Communications Unit Leaders (COMLs) the ability to develop and adapt incident radio communications plans quickly and effectively without having to rely on reprogramming radios, swapping radios, or establishing patches in the field.

A process is also established for documenting any variances from the minimum required statewide uniform interoperability radio zones for limited function (three zone) radios.

2. Technical Background

▪ Capabilities

Public safety digital subscriber radios are typically programmed with multiple zones, each zone holding at least 16 channels/talkgroups. Zones can be organized based on a variety of factors, such as day-to-day operations, task force/special event operations, local mutual aid, regional mutual aid, statewide mutual aid, etc.

▪ Constraints

Certain low tier radios, typically not used for public safety first responders, have limited capacity, including a maximum of three zones with 16 channels each. Other older radios have limitations on the number of characters that can be displayed in a zone/channel name display. Older radio consoles have a relatively low number of resources that can be mapped to an operator position.

3. Operational Context

The two 800 MHz uniform interoperability zones guarantee fully compatible communications among agencies and service branches that typically do not communicate with each other on a

regular day-to-day basis. This standard does not prohibit “unbundling” of the individual interoperability channels and talkgroups for creation of hybrid zones, provided the radio contains the required uniform zones. A multi-year transitional period is provided to deal with complications of moving from the current lack of uniformity to a fully integrated interoperability configuration.

4. Standardized Policy

- All new subscriber agencies joining ARMER shall equip their radios with the two 800 MHz uniform interoperability zones.
- Existing subscriber agencies shall retrofit their radios with the two 800 MHz uniform interoperability zones the next time they reprogram their radios.
- Integrated ARMER dispatch consoles (Gold Elite, MCC7500, etc.) shall have the STACs in the console configuration available for patching per State Standard 3.16.0.
- The standardized zone and channel/talkgroup names listed below shall be used in all radio and console displays as applicable.
- STAC13E and STAC14E are required in all Data Encryption Standard (DES) equipped end-user radios.
- FSOA1 and FSOA2 are restricted to Fire and Emergency Medical Services (EMS) radios only.

STATEWIDE INTEROP			CONVENTIONAL INTEROP		
ZONE DISPLAY NAME	ROTARY CHANNEL SELECTOR	CHANNEL DISPLAY NAME	ZONE DISPLAY NAME	ROTARY CHANNEL SELECTOR	CHANNEL DISPLAY NAME
MN	1	STAC1	8C	1	8CALL90
MN	2	STAC2	8C	2	8TAC91
MN	3	STAC3	8C	3	8TAC92
MN	4	STAC4	8C	4	8TAC93
MN	5	STAC5	8C	5	8TAC94
MN	6	STAC6	8C	6	8CALL90D
MN	7	STAC7	8C	7	8TAC91D
MN	8	STAC8	8C	8	8TAC92D
MN	9	STAC9	8C	9	8TAC93D
MN	10	STAC10	8C	10	8TAC94D
MN	11	STAC11	8C	11	8SOA1
MN	12	STAC12	8C	12	8SOA2
MN	13	STAC13E*	8C	13	8SOA3
MN	14	STAC14E*	8C	14	8SOA4
MN	15		8C	15	FSOA1*
MN	16		8C	16	FSOA2*

5. Standardized Procedure

- Procedures for assignment and use of individual interoperability channels and talkgroups shall be in accordance with the appropriate Statewide Radio Board (SRB) or Regional Radio Board (RRB) Standard, Standard Operating Procedures (SOPs) or Best Practices Guide.
- Dispatch centers and radio users should refer to the two 800 MHz uniform interoperability

zones as the “Statewide” and “Conventional” zones.

- User agencies should regularly provide reinforcement training to ensure that all users are fully competent in locating and using these zones.

6. Management

Variances

Variances to the requirement of equipping subscriber radios with the two Uniform Interoperability Zones, or to equip Public Safety Answering Point (PSAP) consoles with all STACs, require approval from the Statewide Radio Board. Agencies may apply for a variance if the requirement is not technically possible or if the requirement is operationally inappropriate. The following are valid reasons for approval of a variance:

- Low tier, non-display radios with a maximum of three zones of 16 channels each
- Single talkgroup control station radios used for console interface, console backup, or fixed gateway interfaces
- Radios that do not have operator selectable talkgroups, such as Metro Transit buses, etc.
- Receive only radios used for recording, intercom audio, etc.
- Radios used for special applications such as Varda alarms, etc.
- Radios used exclusively for training and educational purposes
- Radios assigned to personnel or vehicles that are not first responders and are not part of a response plan to emergencies or disasters in any way, such as internal building facilities maintenance, internal use in jails, correctional facilities, etc.
- Radios used by private contractors performing services under contract to a governmental entity such as Metro Mobility, construction contractors, etc.
- Radio locked on a single talkgroup assigned to a specific location such as an Federal Aviation Administration (FAA) control tower
- Legacy Gold Elite consoles that are at maximum resource summing capacity

A request for variance must include:

- A justification statement identifying the technical or operational reasons why the radio(s) or console(s) will be in non-compliance.
- An inventory of the type, quantity, and duty assignment of the radios for which the variance is requested.
- A list indicating which, if any, statewide interoperability talkgroups and channels are programmed into each radio or group of identical radios, including zone and channel position information.

Management and Distribution of Variance Reports

The State of Minnesota ARMER Interoperability Coordinator will be responsible for acquiring, updating, organizing, and distributing all variance reports.

The variance reports will be distributed to regional radio boards, certified Communications Unit Leaders, and other individuals responsible for interoperable communications activities.

ARMER VARIANCE REPORT NON-STANDARDIZED INTEROPERABILITY ZONE CONFIGURATION

Agency Name & Address: _____

Contact Name: _____ Phone: _____ Email: _____

Date: _____ Number of radios with this configuration: Portables _____ Mobiles: _____ Other: _____

Typical duty assignment using this configuration: _____

Instructions: Fill in the zone letter/name/number at the top of the column and then fill in the channel position boxes to indicate the location of the following channels & talkgroups: STAC1-12, 8CALL90, 8TAC91-94, 8CALL90D, 8TAC91D-94D, 8SOA1-4, FSOA 1-2, and STAC13E-14E

Fill out a separate form for each different variation of radio template. Submit to the Minnesota ARMER office.

Pos	ZONE - ____	ZONE - ____	ZONE - ____	ZONE - ____	ZONE - ____	ZONE - ____	ZONE - ____	ZONE - ____
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

ICS 217A - ARMER 3.0 COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET 3/19/2013								Description
								ARMER INTEROPERABILITY CHANNELS & TALKGROUPS
Standardized Zone Channel Assignment	Talkgroup Name	ARMER 2.0 Name	Required (or Waiver)	Recommended	Optional	Not Allowed	Clear/ Encrypted	Remarks
CALLING								
ANY	MSP-CALL	MSP-CALL	MSP PSAPs		ALL	Other PSAPs	CLR	State Patrol Dispatch Monitored - Emergency Calling ONLY
STATEWIDE INTEROPERABILITY ZONE								
SW-1	STAC1	STAC-1	ALL				CLR	Unified Incident Command Operations
SW-2	STAC2	STAC-2	ALL				CLR	"
SW-3	STAC3	STAC-3	ALL				CLR	"
SW-4	STAC4	STAC-4	ALL				CLR	"
SW-5	STAC5	FTAC-1	ALL				CLR	"
SW-6	STAC6	FTAC-2	ALL				CLR	"
SW-7	STAC7	FTAC-3	ALL				CLR	"
SW-8	STAC8	FTAC-4	ALL				CLR	"
SW-9	STAC9	ETAC-1	ALL				CLR	"
SW-10	STAC10	ETAC-2	ALL				CLR	"
SW-11	STAC11	ETAC-3	ALL				CLR	"
SW-12	STAC12	ETAC-4	ALL				CLR	"
SW-13	STAC13E		All DES Equipped Radios				ENCR	Must Use Statewide Common DES Encryption Key
SW-14	STAC14E		All DES Equipped Radios				ENCR	"
SW-15								
SW-16								
CONVENTIONAL INTEROPERABILITY ZONE								
CV-1	8CALL90R	8CALL90R	ALL				CLR	
CV-2	8TAC91R	8TAC91R	ALL				CLR	
CV-3	8TAC92R	8TAC92R	ALL				CLR	Shared with STR SATCOW
CV-4	8TAC93R	8TAC93R	ALL				CLR	Shared with STR SATCOW
CV-5	8TAC94R	8TAC94R	ALL				CLR	
CV-6	8CALL90D	8CALL90D	ALL				CLR	
CV-7	8TAC91D	8TAC91D	ALL				CLR	
CV-8	8TAC92D	8TAC92D	ALL				CLR	Shared with STR SATCOW
CV-9	8TAC93D	8TAC93D	ALL				CLR	Shared with STR SATCOW
CV-10	8TAC94D	8TAC94D	ALL				CLR	
CV-11	8SOA1	A-SOA-1	ALL		853.9250 NAC \$293		CLR	
CV-12	8SOA2	A-SOA-2	ALL		853.9375 NAC \$293		CLR	Shared with STR SATCOW
CV-13	8SOA3	P-SOA-1	ALL		853.9500 NAC \$293		CLR	
CV-14	8SOA4	P-SOA-2	ALL		853.9625 NAC \$293		CLR	Recommended for Jail Sally Port Comms
CV-15	FSOA1	FSOA1	Fire & EMS Only		853.9750 NAC \$293	Non Fire & EMS	CLR	
CV-16	FSOA2	FSOA2	Fire & EMS Only		853.9875 NAC \$293	Non Fire & EMS	CLR	

ICS 217A - ARMER 3.0 COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET 3/19/2013								Description
								ARMER INTEROPERABILITY CHANNELS & TALKGROUPS
Standardized Zone Channel Assignment	Talkgroup Name	ARMER 2.0 Name	Required (or Waiver)	Recommended	Optional	Not Allowed	Clear/ Encrypted	Remarks
LAW BRANCH TACTICAL RESOURCES								
ANY	LTAC1	LTAC-1	ALL LAW ENFORCEMENT			Non-Law Users	CLR	Law Enforcement Operations
ANY	LTAC2	LTAC-2	ALL LAW ENFORCEMENT			Non-Law Users	CLR	"
ANY	LTAC3	LTAC-3	ALL LAW ENFORCEMENT			Non-Law Users	CLR	"
ANY	LTAC4	LTAC-4	ALL LAW ENFORCEMENT			Non-Law Users	CLR	"
ANY	LTAC5E	LETAC-1		ALL LAW ENFORCEMENT		Non-Law Users	ENCR	Must Use Statewide Common DES Encryption Key
ANY	LTAC6E	LETAC-2		ALL LAW ENFORCEMENT		Non-Law Users	ENCR	"
ANY	LTAC7E	LETAC-3		ALL LAW ENFORCEMENT		Non-Law Users	ENCR	"
ANY	LTAC8E	LETAC-4		ALL LAW ENFORCEMENT		Non-Law Users	ENCR	"
ANY	SIU1E	LESIU-1		LE SPECIAL INV ONLY		Non-SIU, No Consoles	ENCR	"
ANY	SIU2E	LESIU-2		LE SPECIAL INV ONLY		Non-SIU, No Consoles	ENCR	"
ANY	SIU3E	LESIU-3		LE SPECIAL INV ONLY		Non-SIU, No Consoles	ENCR	"
ANY	SIU4E	LESIU-4		LE SPECIAL INV ONLY		Non-SIU, No Consoles	ENCR	"
EMERGENCY MANAGEMENT TACTICAL RESOURCES								
ANY	SEMTAC	SEMTAC		Emergency Managers	All Public Safety Agencies	Non-Public Safety Users	CLR	Emergency Management Coordination
ANY	DRO1	DRO1	Disaster Relief Organizations	Emergency Managers	All Public Safety Agencies		CLR	Disaster Relief Organizations
ANY	DRO2	DRO2	Disaster Relief Organizations	Emergency Managers	All Public Safety Agencies		CLR	"
ANY	DRO3	DRO3	Disaster Relief Organizations	Emergency Managers	All Public Safety Agencies		CLR	"
ANY	DRO4	DRO4	Disaster Relief Organizations	Emergency Managers	All Public Safety Agencies		CLR	"
MEDICAL BRANCH TACTICAL RESOURCES								
ANY	EMS-COORD	EMS-COORD	MREMSC, AST/Taskforce	EMS Command Personnel	EMS Line Personnel	Non-EMS Users	CLR	Major Incident EMS Task Force Coordination
ANY	EMS-SMRCC	EMS-SMRCC	East and West MRCC	All EMS Outside of Metro	MREMSC/AST/Taskforce	Non-EMS Users	CLR	Statewide EMS Unit to Hospital ED Comms
ANY	EMS-MRCXP1	EMS-MRCXP1	East and West MRCC	All EMS Outside of Metro	MREMSC/AST/Taskforce	Non-EMS Users	CLR	Statewide EMS Unit to Hospital ED Comms
ANY	EMS-MRCXP2	EMS-MRCXP2	East and West MRCC	All EMS Outside of Metro	MREMSC/AST/Taskforce	Non-EMS Users	CLR	Statewide EMS Unit to Hospital ED Comms
ANY	EMH-SED	EMH-SED	MRCC & Hospital EDs	Coordinating EMS Dispatch Centers		Field EMS and Non-EMS Users	CLR	Statewide EMS Unit to Hospital ED Comms
SHARED LOW POWER TACTICAL RESOURCES								
ANY	7SOA1			All Portable Radios	769.00625 NAC \$293	2 Watt ERP Maximum	BOTH	Clear Mode Required for Interoperability
ANY	7SOA2			"	769.01875 NAC \$293	"	BOTH	"
ANY	7SOA3			"	769.03125 NAC \$293	"	BOTH	"
ANY	7SOA4			"	769.04375 NAC \$293	"	BOTH	"
ANY	7SOA5			"	769.05625 NAC \$293	"	BOTH	"
ANY	7SOA6			"	769.06875 NAC \$293	"	BOTH	"
ANY	7SOA7			"	774.93125 NAC \$293	"	BOTH	"
ANY	7SOA8			"	774.94375 NAC \$293	"	BOTH	"
ANY	7SOA9			"	774.95625 NAC \$293	"	BOTH	"
ANY	7SOA10			"	774.96875 NAC \$293	"	BOTH	"
ANY	7SOA11			"	774.98125 NAC \$293	"	BOTH	Must Use Statewide Shared Encryption Key
ANY	7SOA12			"	774.99375 NAC \$293	"	BOTH	Must Use Statewide Shared Encryption Key