

Minnesota

Communications Field Operations Guide (MNFOG)

Version 1.8



Minnesota Department of Public Safety
Emergency Communication Networks

April 2014



New in this Version

Version 1.8, April 24 2014:

- Correction to MSP-CALL description

Version 1.7, April 14 2014:

- Typographical corrections
- Updated regional interop zones
- Minor formatting/design changes

Version 1.6, November 21 2013:

- Frequency corrections: Tribal VHF interoperability zone, DNRTAC1

Version 1.5, November 21 2013:

- Name change: MNFOG (previously known as MN COMM FOG)
- Various updates related to 2013 Change Management
- Updated regional talkgroup references
- Change management "cheat sheet"
- Talkgroup/frequency guides moved to the front of the guide
- New section on Status Board
- New section on ARMER training website
- Added tribal 800 MHz and VHF interoperability zones
- Added State Patrol district map
- Other administrative changes and corrections

Introduction

The most current version of this guide is always available at <https://dps.mn.gov/divisions/ecn/>.

The Minnesota Communications Field Operations Guide (MNFOG) is a collection of technical reference material to aid Communications Unit personnel in establishing solutions to support communications during emergency incidents and planned events. The MNFOG includes information from the National Interoperability Field Operations Guide (NIFOG), material from each of the seven Minnesota Radio Region Tactical Interoperable Communications Plans (TICP), and data from other Minnesota communications documents; formatted as a pocket-sized guide.

The MNFOG contains local, state, and national interoperability channels. These channels should be programmed into all public safety radios in the appropriate frequency band. If geographic restrictions on some channels preclude their use within Minnesota, they may offer an interoperability option when responding out of State where the restrictions do not apply.

We welcome contributions, corrections, or comments! Please direct them to: brandon.abley@state.mn.us

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State Emergency Operations Center (EOC)

EOC phone number, when activated during a state of emergency:
651-201-7483

444 Cedar St
St Paul, Minnesota 55101-5137

During non-activated times, contact the State Duty Officer.

Minnesota State Duty Officer

Phone:	651-649-5451	Toll-free:	800-422-0798
TDD:	711	Ops Center:	651-793-5451
Fax:	651-296-2300	Sat Phone:	1-254-543-6490

Available 24 hours per day, 365 days per year
State-designated authority for requesting state assistance
Report hazardous materials or petroleum incidents

Duty Officer may also be contacted through "MNDO" ARMER talkgroup

CASM

The State of Minnesota CASM administrator is John Dooley, DPS Homeland Security and Emergency Management (HSEM).

For assistance with using CASM, or for help with CASM account access, contact John Dooley.

Phone: 651-201-7498
Email: John.Dooley@state.mn.us

ARMER Uniform Statewide Interoperability Zones

Zone Display	Ch	Channel Display
MN	1	STAC1
MN	2	STAC2
MN	3	STAC3
MN	4	STAC4
MN	5	STAC5
MN	6	STAC6
MN	7	STAC7
MN	8	STAC8
MN	9	STAC9
MN	10	STAC10
MN	11	STAC11
MN	12	STAC12
MN	13	STAC13E
MN	14	STAC14E
MN	15	
MN	16	

Zone Display	Ch	Channel Display
8C	1	8CALL90
8C	2	8TAC91
8C	3	8TAC92
8C	4	8TAC93
8C	5	8TAC94
8C	6	8CALL90D
8C	7	8TAC91D
8C	8	8TAC92D
8C	9	8TAC93D
8C	10	8TAC94D
8C	11	8SOA1
8C	12	8SOA2
8C	13	8SOA3
8C	14	8SOA4
8C	15	FSOA1
8C	16	FSOA2

MN and 8C zones are required in every radio operating on ARMER. These are standardized ARMER talkgroups and channels.

STAC13E and STAC14E are required in all DES-encrypted radios on ARMER.

Channels 15 and 16 (and 13 and 14 for non-encrypted radios) are "local choice".

This guide does not detail all policy for these zones. For more information, see SECB Standard 3.16.6: 800 MHz Statewide Uniform Interoperability Zones.

8SOA4 recommended for incoming transport units at jail sally ports.

ARMER Statewide Shared Interoperability Talkgroups (part 1)

Name	Available to	Purpose
STAC1	All Users	All users statewide tactical interop
STAC2	All Users	All users statewide tactical interop
STAC3	All Users	All users statewide tactical interop
STAC4	All Users	All users statewide tactical interop
STAC5	All Users	All users statewide tactical interop
STAC6	All Users	All users statewide tactical interop
STAC7	All Users	All users statewide tactical interop
STAC8	All Users	All users statewide tactical interop
STAC9	All Users	All users statewide tactical interop
STAC10	All Users	All users statewide tactical interop
STAC11	All Users	All users statewide tactical interop
STAC12	All Users	All users statewide tactical interop
STAC13E	All Users	All users statewide tactical interop, encrypted
STAC14E	All Users	All users statewide tactical interop, encrypted
LTAC1	Law Enforcement	Law enforcement statewide tactical interop
LTAC2	Law Enforcement	Law enforcement statewide tactical interop
LTAC3	Law Enforcement	Law enforcement statewide tactical interop
LTAC4	Law Enforcement	Law enforcement statewide tactical interop
LTAC5E	Law Enforcement	Law enforcement statewide interop, encrypted
LTAC6E	Law Enforcement	Law enforcement statewide interop, encrypted
LTAC7E	Law Enforcement	Law enforcement statewide interop, encrypted
LTAC8E	Law Enforcement	Law enforcement statewide interop, encrypted

ARMER Statewide Shared Interoperability Talkgroups (part 2)

Name	Available to	Purpose
SEMTAC	All Users	For emergency management comms. Available to all users for interop
DRO-1	All Users	Primary for American Red Cross during major incidents; otherwise assigned to a DRO at incident
DRO-2	All Users	Primary for Salvation Army during major incidents; ; otherwise assigned to a DRO at incident
DRO-3	All Users	Assigned per Incident Commander and MNVOAD; for major incidents with a disaster relief organization
DRO-4	All Users	Assigned per Incident Commander and MNVOAD; for major incidents with a disaster relief organization
MSP-CALL	All Users	MN State Patrol calling; available to all users except non-MSP PSAPs who wish to hail State Patrol
TC-OP	Tribal Government	Tribal government responders, statewide interop
EMH-SED	EMS Dispatch	Special use patching; not for field units; see SECB 3.37.0
EMS-SMRCC	EMS	Statewide hailing to West and East MRCC
EMS-MRCXP1	EMS	Special use patching; see SECB 3.36.0
EMS-MRCXP2	EMS	Special use patching; see SECB 3.36.0
SIU1E	SIU only	Sensitive investigations
SIU2E	SIU only	Sensitive investigations
SIU3E	SIU only	Sensitive investigations
SIU4E	SIU only	Sensitive investigations

*ARMER Regional Shared Interoperability Talkgroups
Metro and South Central Regions*

Name	Region	Purpose
METAC1	Metro (MESB)	For metro-wide interoperability; public safety only
METAC2	Metro (MESB)	For metro-wide interoperability; public safety only
METAC3	Metro (MESB)	For metro-wide interoperability; public safety only
METAC4	Metro (MESB)	For metro-wide interoperability; public safety only
METAC5	Metro (MESB)	For metro-wide interoperability; available to all users
METAC6	Metro (MESB)	For metro-wide interoperability; available to all users
METAC7	Metro (MESB)	For metro-wide interoperability; available to all users
METAC8	Metro (MESB)	For metro-wide interoperability; available to all users
SR-CALL	South Central	South Central Region interoperability calling; all users
SR-2	South Central	South Central Region interoperability tactical; all users
SR-3	South Central	South Central Region interoperability tactical; all users
SR-4	South Central	South Central Region interoperability tactical; all users
SR-5	South Central	South Central Region interoperability tactical; all users
SR-6	South Central	South Central Region interoperability tactical; all users
SR-7	South Central	South Central Region interoperability tactical; all users
SR-8	South Central	South Central Region interoperability tactical; all users
SR-9	South Central	South Central Region interoperability tactical; all users
SR-10	South Central	South Central Region interoperability tactical; all users
SR-11	South Central	South Central Region interoperability tactical; all users
SR-12	South Central	South Central Region interoperability tactical; all users

Note: Permission is required from MESB to program Metro interop resources into agency equipment. For permission to use these resources, contact MESB.

*ARMER Regional Shared Interoperability Talkgroups
Southwest Region*

Name	Region	Purpose
SW-CALL	Southwest	Southwest region interoperability calling; all users
SW-2	Southwest	Southwest region interoperability tactical; all users
SW-3	Southwest	Southwest region interoperability tactical; all users
SW-4	Southwest	Southwest region interoperability tactical; all users
SW-5	Southwest	Southwest region interoperability tactical; all users
SW-6	Southwest	Southwest region interoperability tactical; all users
SW-7	Southwest	Southwest region interoperability tactical; all users
SW-8	Southwest	Southwest region interoperability tactical; all users
SW-9	Southwest	Southwest region interoperability tactical; all users
SW-10	Southwest	Southwest region interoperability tactical; all users
SW-11	Southwest	Southwest region interoperability tactical; all users
SW-12	Southwest	Southwest region interoperability tactical; all users
SW-13	Southwest	Southwest region interoperability tactical; all users
SW-HOS 14	Southwest	Southwest region, EMS
SW-R5EMTAC15	Southwest	Southwest region, emergency management

*ARMER Regional Shared Interoperability Talkgroups
Central Minnesota Region*

Name	Region	Purpose
CM-CALL	Central MN	Central Minnesota calling; all users
CM2	Central MN	Central Minnesota interoperability tactical; all users
CM3	Central MN	Central Minnesota interoperability tactical; all users
CM4	Central MN	Central Minnesota interoperability tactical; all users
CM5	Central MN	Central Minnesota interoperability tactical; all users
CM6	Central MN	Central Minnesota interoperability tactical; all users
CM7	Central MN	Central Minnesota interoperability tactical; all users
CM8	Central MN	Central Minnesota interoperability tactical; all users
CM9	Central MN	Central Minnesota interoperability tactical; all users
CM10	Central MN	Central Minnesota interoperability tactical; all users
CM11	Central MN	Central Minnesota interoperability tactical; all users
CM12	Central MN	Central Minnesota interoperability tactical; all users
CM-EMS-HAIL	Central MN	Central Minnesota, EMS calling
CM-EM	Central MN	Central Minnesota, emergency management

*ARMER Regional Shared Interoperability Talkgroups
Northeast and Northwest Regions*

Name	Region	Purpose
NE-CALL	Northeast MN	Northeast Minnesota calling; all users
NE2	Northeast MN	Northeast Minnesota tactical; all users
NE3	Northeast MN	Northeast Minnesota tactical; all users
NE4	Northeast MN	Northeast Minnesota tactical; all users
NE5	Northeast MN	Northeast Minnesota tactical; all users
NE6	Northeast MN	Northeast Minnesota tactical; all users
NE7	Northeast MN	Northeast Minnesota tactical; all users
NE8	Northeast MN	Northeast Minnesota tactical; all users
NE9	Northeast MN	Northeast Minnesota tactical; all users
NE10	Northeast MN	Northeast Minnesota tactical; all users
NE11	Northeast MN	Northeast Minnesota tactical; all users
NE12	Northeast MN	Northeast Minnesota tactical; all users
NE-EMTAC	Northeast MN	Northeast Minnesota Emergency Management
NW-CALL	Northwest MN	Northwest Minnesota Interoperability Calling
NW 2	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 3	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 4	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 5	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 6	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 7	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 8	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 9	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 10	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 11	Northwest MN	Northwest Minnesota Interoperability, all disciplines
NW 12	Northwest MN	Northwest Minnesota Interoperability, all disciplines

*ARMER Regional Shared Interoperability Talkgroups
Southeast Region*

Name	Region	Purpose
SE-CALL	Southeast	Southeast MN interoperability calling
SE 2	Southeast	Southeast MN interoperability tactical, all users; formerly SE PTAC1
SE 3	Southeast	Southeast MN interoperability tactical, all users; formerly SE PTAC2
SE 4	Southeast	Southeast MN interoperability tactical, all users; formerly SE PTAC3
SE 5	Southeast	Southeast MN interoperability tactical, all users; formerly SE PTAC4
SE 6	Southeast	Southeast MN interoperability tactical, all users; formerly SE ATAC1
SE 7	Southeast	Southeast MN interoperability tactical, all users; formerly SE ATAC2
SE 8	Southeast	Southeast MN interoperability tactical, all users; formerly SE ATAC3
SE 9	Southeast	Southeast MN interoperability tactical, all users; formerly SE ATAC4
SE 10	Southeast	Southeast MN interoperability tactical; all users
SE 11	Southeast	Southeast MN interoperability tactical; all users
SE 12	Southeast	Southeast MN interoperability tactical; all users
SE 13	Southeast	Southeast MN interoperability tactical; all users
SE 14E	Southeast	Southeast MN encrypted (strapped) mutual aid
SE 15E	Southeast	Southeast MN encrypted (strapped) mutual aid

Note: Permission is required from SE RRB to program Southeast interop resources into agency equipment. For permission to use these resources, contact the SE RRB.

ARMER Tribal Interoperability Zone

Name	Notes
TC OP 1	Used for Tribal Command and Control during events and incidents. Only available to Tribal agencies
STAC 7	Statewide Tactical channel available for use with all ARMER subscribers
STAC 12	Statewide Tactical channel available for use with all ARMER subscribers
NE-7	North East Regional channel available for incidents/events in the NorthEast region by all ARMER subscribers
NW-7	NorthWest Regional channel available for incidents/events in the NorthWest region by all ARMER subscribers
SE-7	South East Regional channel available for incidents/events in the SouthEast region by all ARMER subscribers
SW-TAC7	South West Regional channel available for incidents/events in the SouthWest region by all ARMER subscribers
CM-7	Central Regional channel available for incidents/events in the Central region by all ARMER subscribers
8CALL90	Repeated National Interoperability Channel used for hailing and initial calling during incidents/events
8CALL90D	Direct National Interoperability Channel used for radio -to-radio communications
8TAC92	Repeated National Interoperability Channel used for tactical communications during incidents/events
8TAC92D	Direct National Interoperability Channel used for radio -to-radio communications
8SOA1	ARMER Scene-Of-Action channel for radio-to-radio communications; licensed for use in Minnesota only
8SOA2	ARMER Scene-Of-Action channel for radio-to-radio communications; licensed for use in Minnesota only
MSP-CALL	Minnesota State Patrol call and hailing for emergencies

Optional interoperability zone developed by a workgroup representing Tribal police, fire, and emergency managers from Central and Northern Minnesota as a result of the 2013 Minnesota Tribal Interoperability Training Event. Recommended for all Tribal agency radios in Minnesota operating on ARMER.

800 MHz National Conventional Interoperability Frequencies

Ch	RX Freq	RX/NAC	TX Freq	Tx/NAC	Mode
8CALL90	851.01250	156.7	806.01250	156.7	A
8CALL90D	851.01250	156.7	851.01250	156.7	A
8TAC91	851.51250	156.7	806.51250	156.7	A
8TAC91D	851.51250	156.7	851.51250	156.7	A
8TAC92	852.01250	156.7	807.01250	156.7	A
8TAC92D	852.01250	156.7	852.01250	156.7	A
8TAC93	852.51250	156.7	807.51250	156.7	A
8TAC93D	852.51250	156.7	852.51250	156.7	A
8TAC94	853.01250	156.7	808.01250	156.7	A
8TAC94D	853.01250	156.7	853.01250	156.7	A

800 MHz National Interoperability channels are recommended for all public safety radios operating in the 800 MHz band.

The use of these channels is covered by a blanket authorization per FCC 00-348, Third Memorandum Opinion and Order and Third Report and Order, WT Docket No. 96-86.

Default operation should be set to CARRIER SQUELCH receive unless needed to mitigate interference. If carrier squelch is selectable on the radio, the radio should be programmed to toggle carrier squelch on/off.

SOA Channels

Ch	RX Freq	RX/NAC	TX Freq	Tx/NAC	Mode
8SOA1	853.9250	\$293	853.9250	\$293	D (P25)
8SOA2	853.9375	\$293	853.9375	\$293	D (P25)
8SOA3	853.9500	\$293	853.9500	\$293	D (P25)
8SOA4	853.9625	\$293	853.9625	\$293	D (P25)
FSOA1	853.9750	\$293	853.9750	\$293	D (P25)
FSOA2	853.9875	\$293	853.9875	\$293	D (P25)

Ch	RX Freq	RX NAC	TX Freq	TX NAC	Mode
7SOA1	769.00625	\$293	769.00625	\$293	D (P25)
7SOA2	769.01875	\$293	769.01875	\$293	D (P25)
7SOA3	769.03125	\$293	769.03125	\$293	D (P25)
7SOA4	769.04375	\$293	769.04375	\$293	D (P25)
7SOA5	769.05625	\$293	769.05625	\$293	D (P25)
7SOA6	769.06875	\$293	769.06875	\$293	D (P25)
7SOA7	774.93125	\$293	774.93125	\$293	D (P25)
7SOA8	774.94375	\$293	774.94375	\$293	D (P25)
7SOA9	774.95625	\$293	774.95625	\$293	D (P25)
7SOA10	774.96875	\$293	774.96875	\$293	D (P25)
7SOA11	774.98125	\$293	774.98125	\$293	D (P25)
7SOA12	774.99375	\$293	774.99375	\$293	D (P25)

SOA and FSOA channels are licensed by MnDOT (800 MHz) and DPS (700 MHz) for interoperable simplex communications within the boundaries of the state of Minnesota. These channels are available to all public safety users in the state.

7SOA channels are limited to 2W ERP. User agencies are responsible to ensure radios are 700 MHz-capable and have 700 MHz-compatible antennas.

STR Standardized Zone Channel Assignment

	Zone 1 (Statewide IC)	Zone 2 (Conventional)	Zone 3* (Home Region)
1	STAC1	8CALL90	(Regional Call)*
2	STAC2	8TAC91	(Regional TAC)*
3	STAC3	8TAC92	(Regional TAC)*
4	STAC4	8TAC93	(Regional TAC)*
5	STAC5	8TAC94	(Regional TAC)*
6	STAC6	8CALL90D	(Regional TAC)*
7	STAC7	8CALL91D	(Regional TAC)*
8	STAC8	8CALL92D	(Regional TAC)*
9	STAC9	8CALL93D	(Regional TAC)*
10	STAC10	8TAC94D	(Regional TAC)*
11	STAC11	8SOA1	(Regional TAC)*
12	STAC12	8SOA2	(Regional TAC)*
13	LTAC1	8SOA3	DRO-1
14	LTAC2	8SOA4	DRO-2
15	LTAC3	FSOA1	DRO-3
16	LTAC4	FSOA2	DRO-4

*: Regional interoperability talkgroups vary by region.

These channels are the minimum talkgroups required to be programmed into ARMER STR cache radios located throughout the state. Additional zones may be included at the discretion of the equipment owner.

SOA channels are licensed only for use within the boundaries of Minnesota.

For more information, see SECB Standard 3.33.1: STR-Radio Cache.

700 MHz National Conventional Interoperability Frequencies

Ch	RX Freq	RX NAC	TX Freq	TX NAC	Mode
7TAC51	769.14375	F7E	799.14375	293	D (P25)
7TAC51D	769.14375	F7E	769.14375	293	D (P25)
7CALL50	769.24375	F7E	799.24375	293	D (P25)
7CALL50D	769.24375	F7E	769.24375	293	D (P25)
7MED65	769.39375	F7E	799.39375	293	D (P25)
7MED65D	769.39375	F7E	769.39375	293	D (P25)
7MED66	769.49375	F7E	799.49375	293	D (P25)
7MED66D	769.49375	F7E	769.49375	293	D (P25)
7TAC52	769.64375	F7E	799.64375	293	D (P25)
7TAC52D	769.64375	F7E	799.64375	293	D (P25)
7TAC55	769.74375	F7E	799.74375	293	D (P25)
7TAC55D	769.74375	F7E	769.74375	293	D (P25)
7FIRE63	769.89375	F7E	799.89375	293	D (P25)
7FIRE63D	769.89375	F7E	769.89375	293	D (P25)
7FIRE64	769.99375	F7E	799.99375	293	D (P25)
7FIRE64D	769.99375	F7E	769.99375	293	D (P25)
7TAC53	770.14375	F7E	800.14375	293	D (P25)
7TAC53D	770.14375	F7E	770.14375	293	D (P25)
7TAC56	770.24375	F7E	800.24375	293	D (P25)
7TAC56D	770.24375	F7E	770.24375	293	D (P25)
7LAW61	770.39375	F7E	800.39375	293	D (P25)
7LAW61D	770.39375	F7E	770.39375	293	D (P25)
7LAW62	770.49375	F7E	800.49375	293	D (P25)
7LAW62D	770.49375	F7E	770.49375	293	D (P25)

700 MHz National Conventional Interoperability Frequencies

Ch	RX Freq	RX NAC	TX Freq	TX NAC	Mode
7TAC54	770.64375	F7E	800.64375	293	D (P25)
7TAC54D	770.64375	F7E	770.64375	293	D (P25)
7DATA69	770.74375	F7E	800.74375	293	D (P25)
7DATA69D	770.74375	F7E	770.74375	293	D (P25)
7MOB59	770.89375	F7E	800.89375	293	D (P25)
7MOB59D	770.89375	F7E	770.89375	293	D (P25)
7GTAC57	770.99375	F7E	800.99375	293	D (P25)
7GTAC57D	770.99375	F7E	770.99375	293	D (P25)
7MED86	773.00625	F7E	803.00625	293	D (P25)
7MED86D	773.00625	F7E	773.00625	293	D (P25)
7TAC71	773.10625	F7E	803.10625	293	D (P25)
7TAC71D	773.10625	F7E	773.10625	293	D (P25)
7CALL70	773.25625	F7E	803.25625	293	D (P25)
7CALL70D	773.25625	F7E	773.25625	293	D (P25)
7MED87	773.35625	F7E	803.35625	293	D (P25)
7MED87D	773.35625	F7E	773.35625	293	D (P25)
7FIRE83	773.50625	F7E	803.50625	293	D (P25)
7FIRE83D	773.50625	F7E	773.50625	293	D (P25)
7TAC72	773.60625	F7E	803.60625	293	D (P25)
7TAC72D	773.60625	F7E	773.60625	293	D (P25)
7TAC75	773.75625	F7E	803.75625	293	D (P25)
7TAC75D	773.75625	F7E	773.75625	293	D (P25)
7FIRE84	773.85625	F7E	803.85625	293	D (P25)
7FIRE84D	773.85625	F7E	773.85625	293	D (P25)

700 MHz National Conventional Interoperability Frequencies

Ch	RX Freq	RX NAC	TX Freq	TX NAC	Mode
7LAW81	774.00625	F7E	804.00625	293	D (P25)
7LAW81D	774.00625	F7E	774.00625	293	D (P25)
7TAC73	774.10625	F7E	804.10625	293	D (P25)
7TAC73D	774.10625	F7E	774.10625	293	D (P25)
7TAC76	774.25625	F7E	804.25625	293	D (P25)
7TAC76D	774.25625	F7E	774.25625	293	D (P25)
7LAW82	774.35625	F7E	804.35625	293	D (P25)
7LAW82D	774.35625	F7E	774.35625	293	D (P25)
7MOB79	774.50625	F7E	804.50625	293	D (P25)
7MOB79D	774.50625	F7E	774.50625	293	D (P25)
7TAC74	774.60625	F7E	804.60625	293	D (P25)
7TAC74D	774.60625	F7E	774.60625	293	D (P25)
7DATA89	774.75625	F7E	804.75625	293	D (P25)
7DATA89D	774.75625	F7E	774.75625	293	D (P25)
7GTAC77	774.85625	F7E	804.85625	293	D (P25)
7GTAC77D	774.85625	F7E	774.85625	293	D (P25)

700 MHz National Interoperability Talkgroups are recommended for all public safety radios operating in the 700 MHz band, but should be considered **optional** as these channels are not extensively used in Minnesota or bordering states. Generally 800 MHz is preferred for conventional interoperability in Minnesota. VHF is preferred in limited non-800 MHz areas of Minnesota and bordering states.

700 MHz interoperability channels are ALL to be programmed in P25 mode.

Before adopting 7SOA channels ensure sure your radios are 700 MHz-capable and that subscriber radios have 700 MHz-compatible antennas.

UHF National Conventional Interoperability Frequencies

Ch	RX Freq	RX/NAC	TX Freq	Tx/NAC	Mode
UCALL40	453.2125	156.7	458.2125	156.7	A
UCALL40D	453.2125	156.7	453.2125	156.7	A
UTAC41	453.4625	156.7	458.4625	156.7	A
UTAC41D	453.4625	156.7	453.4625	156.7	A
UTAC42	453.7125	156.7	458.7125	156.7	A
UTAC42D	453.7125	156.7	453.7125	156.7	A
UTAC43	453.8625	156.7	458.8625	156.7	A
UTAC43D	453.8625	156.7	453.8625	156.7	A

UHF MHz National Interoperability Talkgroups are recommended for all public safety radios operating in the UHF band (note—not extensively used throughout Minnesota).

The use of these channels is covered by a blanket authorization per FCC 00-348, Third Memorandum Opinion and Order and Third Report and Order, WT Docket No. 96-86.

Default operation should be set to CARRIER SQUELCH receive unless needed to mitigate interference. If carrier squelch is selectable on the radio, the radio should be programmed to toggle carrier squelch on/off.

Standard Minnesota VHF Interoperability Frequencies

(Effective January 1, 2013)

Name	RX Freq	RX/NAC	TX Freq	TX/NAC	Mode
VCALL10	155.7525	CSQ	155.7525	156.7	A
VTAC11	151.1375	CSQ	151.1375	156.7	A
VTAC12	154.4525	CSQ	154.4525	156.7	A
VTAC13	158.7375	CSQ	158.7375	156.7	A
VTAC14	159.4725	CSQ	159.4725	156.7	A
MNCOMM	155.3700	156.7	155.3700	156.7	A
VFIRE23	154.2950	156.7	154.2950	156.7	A
MNFIRG2	154.0100	156.7	154.0100	156.7	A
MNFIRG3	153.8300	156.7	153.8300	156.7	A
DNRTAC1	151.4750	156.7	151.4750	156.7	A
VLAW31	155.4750	156.7	155.4750	156.7	A
VMED28	155.3400	156.7	155.3400	156.7	A
IR 2	170.4125	167.9	165.9625	167.9	A
VTAC14R	159.4725	156.7	154.6875	156.7	A
NGRPTR*	Restricted	Restricted	Restricted	Restricted	Restricted
LE 2	167.25	\$68F	162.2625	\$68F	D

CTCSS tone 156.7 Hz is the National Standard tone found in the National Interoperability Field Operations Guide (NIFOG) and recommended by NPSTC.

VCALL and VTAC11-14 are national, non-Federal interoperability channels allowable for use by all public safety eligibles.

*: For Minnesota National Guard frequency information, contact the Minnesota National Guard.

VHF Conventional Tribal Interoperability Zone

Name	Notes
IR2	Federal Medical Evac Control
IR6	Federal Incident Command (direct)
IR7	Federal Medical Evac Control (direct)
IR8	Logistics Control (direct)
VCALL10	National VHF calling - available in ARMER Motobridge overlay (Standard 3.16.5)
VTAC11	National VHF channel - available in ARMER Motobridge overlay
VTAC12	National VHF channel - available in ARMER Motobridge overlay
VTAC13	National VHF channel - available in ARMER Motobridge overlay
VTAC14	National VHF channel - available in ARMER Motobridge overlay. Also Fed to non-Fed SAR
VTAC33	National VHF channel tactical repeater capability
VTAC34	National VHF channel tactical repeater capability
SAR NFM	Public Safety SAR common
MNCOMM	Minnesota Statewide Calling channel. Used instead of VCALL10 in some areas along the Canadian Border
VFIRE23	Fire use only
VMED28	Med use only
VLAW31	Law use only

Optional interoperability zone developed by a workgroup representing Tribal police, fire, and emergency managers from Central and Northern Minnesota as a result of the 2013 Minnesota Tribal Interoperability Training Event.

Recommended for all Tribal agency radios in Minnesota operating in VHF spectrum.

IR channels available ONLY for mutual aid incidents involving **Federal agencies**.

Non-Federal VHF National Interoperability Channels

Standard Name	Mobile TX	TX/RX CTCSS	Mobile RX	Use
VCALL10	155.7525	156.7/CSQ	155.7525	Public safety calling
VTAC11	151.1375	156.7/CSQ	151.1375	Public safety tactical
VTAC12	154.4525	156.7/CSQ	154.4525	Public safety tactical
VTAC13	158.7375	156.7/CSQ	158.7375	Public safety tactical
VTAC14	159.4725	156.7/CSQ	159.4725	Public safety tactical

VCALL10 is a dedicated interoperability calling channel. VTAC channels are reserved for interagency communications and primarily incident-based operations. Analog narrowband is standard for VCALL and VTAC channels.

All fixed, mobile, and portable radios should transmit using the 156.7 Hz CTCSS code. All mobile and portable radios should be set for carrier squelch unless CTCSS is necessary to mitigate interference.

A Network Access Code (NAC) of \$293 should be used instead of the standard CTCSS codes in cases where digital operation is also permitted on the national interoperability channels in regional or statewide interoperability plans.

VHF Tactical Repeater Channels

Name	Mobile RX	Simplex Channel	Mobile TX	Simplex Channel	TX/RX CTCSS
VTAC14R	159.4725	VTAC14	154.6875	N/A	156.7/CSQ
IR 2	170.4125	IR7	165.9625	N/A	167.9/CSQ
LE 2	167.2500	LE6	162.2625	N/A	\$68F
NGRPTR*	Restricted	Restricted	Restricted	Restricted	Restricted
VTAC33	159.4725	VTAC14	151.1375	VTAC11	136.5/CSQ
VTAC34	158.7375	VTAC13	154.4525	VTAC12	136.5/CSQ
VTAC35	159.4725	VTAC14	154.4525	VTAC12	136.5/CSQ
VTAC36	151.1375	VTAC11	159.4725	VTAC14	136.5/CSQ
VTAC37	154.4525	VTAC12	158.7375	VTAC13	136.5/CSQ
VTAC38	154.4525	VTAC12	159.4725	VTAC14	136.5/CSQ

In Minnesota, VTAC14R is preferred for VHF tactical repeaters. VTAC33-38 should not be used unless absolutely necessary as they require dedicating two tactical channels for the repeater pair. VTAC14R pairs VTAC14 with another channel licensed by the state to create a deployable repeater pair. Adding the "R" designation to this channel is consistent with the naming guidelines established in the ANSI standard although this is not a standard, national channel configuration.

Simplex use of VTAC channels should be preserved to the maximum extent possible by designating primary and secondary repeaters and only activating these repeaters upon direction from a Communications Unit Leader (COML) as part on that incident's Radio Communications Plan.

Temporary repeater use on the paired VTAC channels should not take priority over simplex uses.

**: For Minnesota National Guard frequency information, contact the Minnesota National Guard.*

VHF Federal Incident Response Channels

Name	Mobile TX Freq.	TX/RX CTCSS	Mobile RX Freq.	Use
NC 1	164.7125	167.9/CSQ	169.5375	Incident Calling
IR 1	165.2500	167.9/CSQ	170.0125	Incident Command
IR 2	165.9625	167.9/CSQ	170.4125	Medical Evac Control
IR 3	166.5750	167.9/CSQ	170.6875	Logistics Control
IR 4	167.3250	167.9/CSQ	173.0375	Interagency Convoy
IR 5	169.5375	167.9/CSQ	169.5375	Incident Calling (Direct)
IR 6	170.0125	167.9/CSQ	170.0125	Incident Command (Direct)
IR 7	170.4125	167.9/CSQ	170.4125	Medical Evac Ctrl (Direct)
IR 8	170.6875	167.9/CSQ	170.6875	Logistics Control (Direct)
IR 9	173.0375	167.9/CSQ	173.0375	Interagency Convoy (Direct)

VHF Federal Law Enforcement Interoperability Channels

Name	Mobile TX	CTCSS/NAC	Mobile RX	Use
LE A	167.0875	167.9/CSQ	167.0875	LE calling direct
LE 1	162.0875	167.9/CSQ	167.0875	LE Tactical
LE 2	162.2625	\$68F	167.2500	LE Tactical
LE 3	162.8375	\$68F	167.7500	LE Tactical
LE 4	163.2875	\$68F	168.1125	LE Tactical
LE 5	163.4250	\$68F	168.4625	LE Tactical
LE 6	167.2500	\$68F	167.2500	LE Tactical (Direct)
LE 7	167.7500	\$68F	167.7500	LE Tactical (Direct)
LE 8	168.1125	\$68F	168.1125	LE Tactical (Direct)
LE 9	168.4625	\$68F	168.4625	LE Tactical (Direct)

These channels are ONLY for Federal users or joint Federal/local response. See the NTIA Manual (*Redbook*); esp. Sections 4.3.16 and 5.3.5.2. Frequencies not authorized in Minnesota are grayed out.

VHF Interoperability Channel Use in Adjacent States

VCALL10/155.7525 MHz	
ND	Staging Area Manager Net, Statewide interop zone 5, channel 7
SD	Emergency Use Only for all first responder/public safety radios
IA	Described in SCIP
WI	Public safety interagency calling channel
VTAC11/151.1375 MHz	
ND	Incident/Unified Command Net (Alternate/Spare), Statewide interop Z5, Ch4
SD	Emergency Use Only for all first responder/public safety radios
IA	Described in SCIP
WI	Public safety interagency tactical communications, also have digital version
VTAC12/154.4525 MHz	
ND	Incident/Unified Command Net (Alternate/Spare), Statewide interop Z5, Ch5
SD	Emergency Use Only for all first responder/public safety radios
IA	Described in SCIP
WI	Public safety interagency tactical communications, also have digital version
VTAC13/158.7375 MHz	
ND	Operations Section Chief Net, Statewide interop Z5, Ch6
SD	Emergency Use Only for all first responder/public safety radios
IA	Described in SCIP
WI	Public safety interagency tactical communications, also have digital version
VTAC14/159.4725 MHz	
ND	EMS Tactical 2 (EMS Division/Branch/Group)
SD	Emergency Use Only for all first responder/public safety radios
IA	Described in SCIP
WI	Public safety interagency tactical communications, also have digital version

VHF Interoperability Channel Use in Adjacent States (continued)

VFIRE23/154.295 MHz/FIRESWMA	
ND	Statewide Fire channel, Statewide common Z3, Channel 4 - Fire Command
SD	Statewide Fire channel, Mutual Aid 2 (VFIRE22 is Statewide Fire Mutual Aid 1)
IA	Uses 154.280 (VFIRE21) as statewide fire mutual aid
WI	Fire ground Blue, uses VFIRE 22 as statewide fire mutual aid
VMED28/155.340 MHz/EMS HEAR	
ND	Statewide EMS channel, Statewide common Z3, Ch5 - EMS Command
SD	Statewide EMS channel 3
IA	Statewide EMS mutual aid
WI	State EMS BLS channel (155.400 used as EMS ALS channel)
VLAW31/155.475 MHz/MINSEF	
ND	Used as statewide mutual aid channel, (Statewide common zone 3, channel 3)
SD	Law Enforcement Use Only
IA	Statewide LEA mutual aid
WI	WISPERN - Law enforcement, used by other disciplines only if directed
MNCOMM/155.370 MHz/MIMS	
ND	Law Command (Lead Tactical Law Enforcement Official)
SD	Not widely used, not part of state plans
IA	Statewide point to point channel
WI	Statewide point to point channel, used by other disciplines only if directed b

Legacy VHF Interoperability Frequency Cheat Sheet

Law Enforcement:

Current Name	Standard Name	Frequency	Notes
MINSEF	VLAW31	155.475	ANSI Std. CTCSS Code is 156.7
MIMS	NA	155.370	Currently used for Incident Mgmt.

Fire:

Legacy Name	Standard Name	Frequency	Notes
FIRESWMA	VFIRE23	154.295	ANSI Std. CTCSS Code is 156.7
FIRE TAC 1	MNFIRG3	153.830	Tactical only
FIRESWMA 2	MNFIRG2	154.010	Tactical only
DNR TAC1	DNRTAC1	151.475	Use must be approved by MN DNR
DNR STWD	DNRSTWD	151.415	Use must be approved by MN DNR

EMS:

Current Name	Standard Name	Frequency	Notes
EMS HEAR	VMED28	155.340	ANSI Std. CTCSS Code is 156.7
EMS TACTICAL	NA	150.775	Tactical; primary in some counties

ARMER Change Management Cheat Sheet (Page 1)

Legacy Name	Dual Name	Current Name	Notes
STAC1	(no change)	(no change)	Unchanged
STAC2	(no change)	(no change)	Unchanged
STAC3	(no change)	(no change)	Unchanged
STAC4	(no change)	(no change)	Unchanged
FTAC1	STAC5-FTAC1	STAC5	Placed into pool
FTAC2	STAC6-FTAC2	STAC6	Placed into pool
FTAC3	STAC7-FTAC3	STAC7	Placed into pool
FTAC4	STAC8-FTAC4	STAC8	Placed into pool
ETAC1	STAC9-ETAC1	STAC9	Placed into pool
ETAC2	STAC10-ETAC2	STAC10	Placed into pool
ETAC3	STAC11-ETAC3	STAC11	Placed into pool
ETAC4	STAC12-ETAC4	STAC12	Placed into pool
n/a (new)	n/a (new)	STAC13E	New encrypted STAC
n/a (new)	n/a (new)	STAC14E	New encrypted STAC
LTAC1	(no change)	LTAC1	Exclusive to law enforcement
LTAC2	(no change)	LTAC2	Exclusive to law enforcement
LTAC3	(no change)	LTAC3	Exclusive to law enforcement
LTAC4	(no change)	LTAC4	Exclusive to law enforcement
LETAC1	LTAC5E-LETAC1	LTAC5E	Exclusive to law enforcement
LETAC2	LTAC6E-LETAC2	LTAC6E	Exclusive to law enforcement
LETAC3	LTAC7E-LETAC3	LTAC7E	Exclusive to law enforcement
LETAC4	LTAC8E-LETAC4	LTAC8E	Exclusive to law enforcement
LESIU1	SIU1E-LESIU1	SIU1E	For SIU only
LESIU2	SIU2E-LESIU2	SIU2E	For SIU only
LESIU3	SIU3E-LESIU3	SIU3E	For SIU only
LESIU4	SIU4E-LESIU4	SIU4E	For SIU only

ARMER Change Management Cheat Sheet (Page 2)

Legacy Name	Dual Name	Future Name	Notes
ASOA-1	n/a	8SOA1	Name change for consistency
ASOA-2	n/a	8SOA2	Name change for consistency
PSOA-1	n/a	8SOA3	Name change for consistency
PSOA-2	n/a	8SOA4	Name change for consistency
FSOA-1	n/a	FSOA1	No change
FSOA-2	n/a	FSOA2	No change

Important dates:

- Changes go into effect November 22, 2013.
- Agencies program radios starting November 22, 2013 and will complete programming by June 26, 2015.
- Through November 22, 2013 and June 26, 2015 any given agency may be using old names or new names depending on radio maintenance schedules. However, the new "change management" policy applies regardless of whether the agency is using the legacy or the new channel name.

For more information, refer to ARMER standards 3.15.0, 3.16.0, 3.16.2, 3.16.6, 3.18.0, 3.19.0, 3.33.1 at <https://dps.mn.gov/divisions/ecr/>.

Status Board

Status Board is a statewide web-based dispatch tool accessible through the public internet. It is intended to help coordinate use of interoperable communications resources for urgent, emergent, or preplanned events.

Status Board is available at <https://app2.dps.mn.gov/statusboard>

Basic user controls:

**Quick Schedule**

Reserves a given resource with a single mouse click.

**Cancel Quick Schedule**

Cancel your own reservation with a single mouse click.

**Notes**

Edit notes for a reservation. Only available if resource is reserved.

**Calendar Schedule**

Opens a calendar view for a given resource.

Passwords:

- Must have 8 characters
- Must use one capital letter, lowercase letter, and number
- Must use one of these special characters: `!%\$&^*()`
- Example password: **statusBOARD\$99!**

More information:

- SECB 3.31.0 "StatusBoard"
- Status Board Quick Reference Guide (<https://dps.mn.gov/divisions/ecn/>)
- Status Board Training Module: <http://www.alextech.edu/static/d2l.html>

To request access to Status Board or training resources, contact Cathy Anderson at cathy.anderson@state.mn.us or (651) 201-7548

ARMER/Interoperability Training Website

DPS is partnered with Alexandria Community and Technical College to provide training in many areas related to ARMER and interoperability.

You can access the training website at: <http://www.alextech.edu/static/d2l.html>

Training modules include:

- Radio 101
- History of ARMER
- Interoperability 101
- Dispatch Scenarios
- Dispatch Consoles (MCC 7500, Gold Elite)
- Dispatcher Knowledge (dispatcher technology, computer basics)
- Cross-Spectrum Interoperability Overlay/Motobridge Dispatch
- ARMER Technology
- Equipment Selection
- Status Board
- Portable radio operation (Motorola and EF Johnson models)
- ...and others!

The ARMER training website also includes a number of miscellaneous training materials including instructor toolkits and quick reference guides.

To access training, click on the "ARMER training" link under the "my courses" section to access the training course. To access modules, click on "materials" and then "content".

You will require an account to access the training website. To get an account, contact Cathy Anderson at cathy.anderson@state.mn.us or (651) 201-7548.

Establishing Interoperability

Recommendations for establishing interoperability among agencies from multiple jurisdictions in support of emergency incidents, disaster situations, and planned events:

1. **Recognize that most communications start at a local level and build from there.** As the incident grows consider the resources that you have responding to assist, and the geographic area you need to cover when determining what Interoperability Talkgroup(s) you should use for your incident.
2. **Select the appropriate radio talkgroup(s) for the situation at hand,** whether local, regional, statewide or national. Determine tactical operations needs and reserve appropriate talkgroups or shared channels to be used by responding resources. Keep in mind that responding agencies may use trunked, conventional, VHF, or 800 MHz radios, and that you may need to patch resources across systems.
3. **Follow common naming conventions for talkgroups and frequencies in all radios.** It is recommended that those same name designations are utilized across all jurisdictions.
4. **Include state, regional, and national interoperability talkgroups and frequencies in all emergency response mobile and portable radios.** All emergency response mobile radios participating in the mutual aid system shall have the same state and national interoperability talkgroups programmed in their radios.
5. **Develop protocols for use of Minnesota, Regional, State and National Interoperability resources** by emergency response personnel.
6. **Establish an effective process for requesting communications assets,** whether local, State, or privately-owned.

7. **Adopt the FEMA typing standards for Mobile Communications Center (MCC)** for these assets and establish minimum training requirements for personnel deploying and operating communications assets.
8. **Maintain a resource listing of Communications assets using the CASM tool.** CASM should be maintained by each Radio Region. The State Communications Officer is the administrator for the CASM tool for the State of Minnesota. The CASM tool may be accessed via the internet. A User Name and Pass Code must be obtained from the State Communications Officer.
9. **List Local Communications assets and points of contact in the CASM tool** in order to request the use of this equipment when needed.
10. **Develop Standard Operating Procedures (SOPs) for training State and local dispatch centers** to ensure that Interoperable talkgroups and VHF Frequencies are available in dispatch centers. SOP's will cover monitoring and responding to calls on the mutual aid channels.
11. **Develop guidelines for establishing interoperable communications through the Incident Command System when on the scene of a multi-agency/multi-jurisdictional response.** Strict control must be utilized to ensure that these talkgroups and frequencies are not misused and remain clear for emergencies.

Requests for Deployable Communications Assets

1. An agency needing support of a Communications asset will contact their local dispatch center or State Patrol Dispatch Center for assistance.
2. The local dispatch center or State Patrol Dispatch Center will check the local Radio Region Standard for obtaining Regional Strategic Technology Reserves (STR) cache assets. If a State, National Guard or FEMA asset is requested the local or State Patrol Dispatch center will go through the Minnesota State Duty Officer and make the request. The Minnesota State Duty Officer will start official documentation of the request and pass the request along to the affected state agency with a list of assets requested
3. The responding asset will check in with the Incident Commander (IC) for staging of the asset or to determine a reporting location.
4. The IC will designate a vehicle to meet the arriving Communications asset and escort them to the designated location.
5. The Communications asset will establish communications with the Incident Commander once on scene.
6. The IC will designate a Communications Unit Leader (COML) who will prepare an Incident Radio Communications Plan (ICS Form 205). The ICS205 will be provided to the Communications asset. The Communications Plan will also include phone numbers for incident personnel and other significant locations.
7. If necessary, the IC will designate law enforcement personnel to provide security at the site of the Communications asset.
8. The Communications asset will rapidly prepare to activate interoperable communications necessary to support on-scene incident personnel.
9. The Communications asset should be prepared to remain on scene staffed by trained communications personnel until released by the Incident Commander or designee.

Strategic Technology Reserve Assets

Asset	Qty	Location	Contact E-mail (information)*
UASI Cache XTS 2500 Portables	150	ECN St Paul, MN	Brandon Abley brandon.abley@state.mn.us
NE Cache XTS 1500 Portables	30	Duluth, MN	Bruce Hegrenes hegrenesb@stlouiscountymn.gov
NW Cache XTS 1500 Portables	30	Thief River Falls, MN	David Carlson dcarlson@penningtonsheriff.org
CM Cache XTS 1500 Portables	30	Alexandria, MN	Mike Henrion michaelh@co.douglas.mn.us
SE Cache XTS 1500 Portables	30	Rochester, MN	Rick Freshwater freshwater.rick@co.olmsted.mn.us
SR Cache XTS 1500 Portables	30	Mankato, MN	Tim Mohr Tim.Mohr@co.blue-earth.mn.us
SW Cache XTS 1500 Portables	30	Marshall, MN	Todd Roelfsema ToddRoelfsema@co.lyon.mn.us
NE STR 50' Transportable Tower: VHF-800 Repeater †	1	Duluth, MN	Bruce Hegrenes hegrenesb@stlouiscountymn.gov
NW STR 50' Transportable Tower: VHF-800 Repeater †	1	Thief River Falls, MN	David Carlson dcarlson@penningtonsheriff.org
CM STR 50' Transportable Tower: VHF-800 Repeater †	1	Alexandria, MN	Mike Henrion michael.henrion@mail.co.douglas.mn.us
SE STR 50' Transportable Tower: VHF-800 Repeater †	1	Winona, MN	Michael Peterson MPeterson@Co.Winona.MN.US
SR STR 50' Transportable Tower: VHF-800 Repeater †	1	Mankato, MN	Tim Mohr Tim.Mohr@co.blue-earth.mn.us
SW STR 50' Transportable Tower: VHF-800 Repeater †	1	Marshall, MN	Todd Roelfsema ToddRoelfsema@co.lyon.mn.us
Metro STR 50' Trnsprtbl. Tower: VHF-800 Repeater †	1	Bloomington, MN	Jill Rohret jrohret@mn-mesb.org
Greater NW EMS 50' Trnsprtbl. Tower (VHF) †	1	Thief River Falls, MN	Tom Vanderwal tvander@enterpoint.net

Strategic Technology Reserve Assets

Asset	Qty	Location	Contact E-mail (information)*
Hennepin STR SAT-COW †	1	Golden Valley, MN	Roger Laurence roger.laurence@co.hennepin.us
Hennepin County S.O. P25 VHF Cache Radios	79	Golden Valley, MN	Roger Laurence roger.laurence@co.hennepin.us
Hennepin Co. S.O. ARMER Portable Cache Radios	324	Golden Valley, MN	Roger Laurence roger.laurence@co.hennepin.us
MN National Guard JCP1 and 2 VHF/UHF/800 †	2	**	SGT Troy Tretter troy.p.tretter.mil@mail.mil
MN National Guard JCP3 VHF/UHF/800 †	1	**	SGT Troy Tretter troy.p.tretter.mil@mail.mil
MN National Guard RCP1 VHF/UHF/800; 59' tower †	1	**	SGT Troy Tretter troy.p.tretter.mil@mail.mil
MN Nat'l Guard RCP2-4 VHF/UHF/800 106' tower †	3	**	SGT Troy Tretter troy.p.tretter.mil@mail.mil
MIFC Analog VHF Portable Cache Radios	325	Grand Rapids, MN	Pat Coughlin pat.coughlin@state.mn.us
MIFC Conventional VHF Repeaters (Daniels)	4	Grand Rapids, MN	Pat Coughlin pat.coughlin@state.mn.us
MIFC Crank-up Towers w/ VHF Antennae (50', 100') †	2	Grand Rapids, MN	Pat Coughlin pat.coughlin@state.mn.us
MIFC Wildland Fire Communications Trailers (31' towers) †	1	Grand Rapids, MN	Pat Coughlin pat.coughlin@state.mn.us

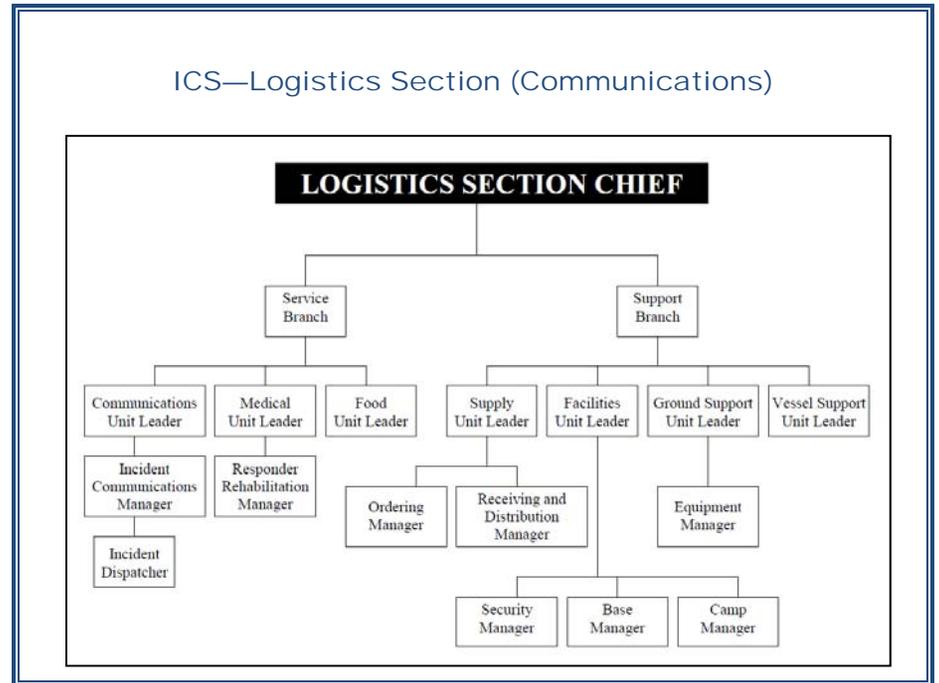
This is an abbreviated and partial list of high-profile assets. For more information or for a complete list of deployable assets available to you, refer to your TICP.

*: These are administrative contacts; they are not emergency deployment contacts. To activate assets during an incident, it is best practice to contact the State Duty Officer or follow appropriate procedures for locally-owned assets.

** : For MN National Guard asset locations, contact the MN National Guard.

†: Denotes a transportable tower (such as trailer or vehicle-mounted).

ICS—Logistics Section (Communications)



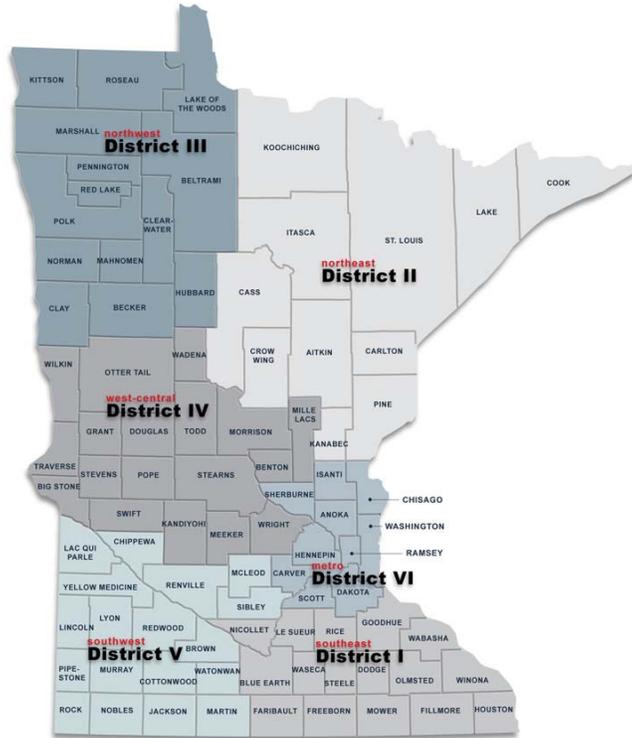
Abbreviated Communications Unit Leader (COML) Checklist

- Obtain briefing from the Logistics Section Chief or Service Branch Director.
- Organize and staff Unit as appropriate.
- Assign Communications Center Manager and Lead Incident Dispatcher.
- Assign Message Center Manager; ensure staff is assigned to telephones, etc.
- Assess communications systems in use; advise on capabilities/limitations.
- Develop and implement effective communications procedures (flow).
- Assess Incident Command Post phone load.
- Obtain or prepare copy of Communications Resource Availability Worksheet.
- Prepare and Implement Incident Communications Plan (ICS Form 205).
- Determine most hazardous tactical activity; ensure adequate communications.
- Make communications assignments to all other Operations elements or mutual aid.
- Determine Command communications needs.
- Establish and post any specific procedures for use of Command Post equipment.
- Include cellular phones/pagers in Communications Plan (ICS Form 205T) if needed.
- Determine specific organizational elements to be assigned to telephones.
- Document phone numbers for all facilities where communications must be established.
- Determine which phones and what numbers should be used by specific personnel.
- Activate and supervise integration of volunteer radio into communications.
- Ensure radio and telephone logs are available and being used.
- Determine need and research availability of additional networks and systems.
- Order any additional deployable communications resources as necessary.
- Provide technical documentation for the communications system including quantities.
- Estimate Unit needs for expected operations
- Establish and maintain communications equipment accountability system.
- As required, request relief personnel
- Provide briefing to relief personnel on current activities and unusual situations.
- Document all activity on Unit Log (ICS Form 214).

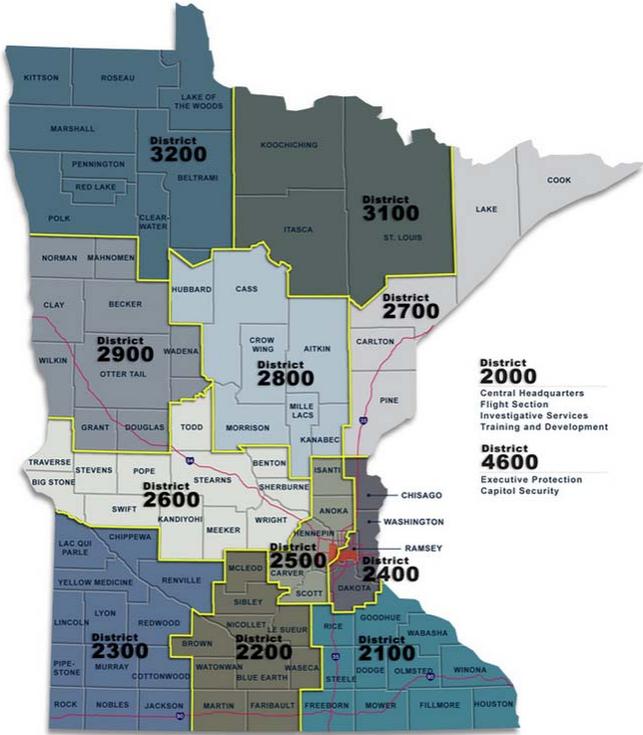
INCIDENT COMMUNICATIONS PLAN (ICS 205)			Incident Name			Date/Time Prepared		Date/Time Prepared	
Ch	Function	Channel	Assignment	RX Freq	RX Code	TX Freq	Tx Code	Mode	Remarks
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
5. Prepared by (Communications Unit)					Incident Location County/State Lat/Long				

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A						Frequency Band	Description		
	Config	Channel Name	Eligible Users	RX Freq	RX Code	TX Freq	Tx Code	Mode	Remarks
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
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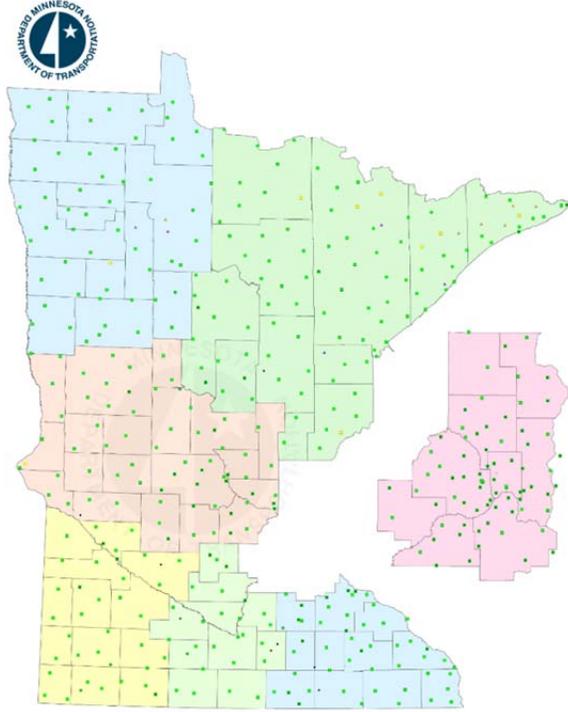
Emergency Management Districts



State Patrol Districts

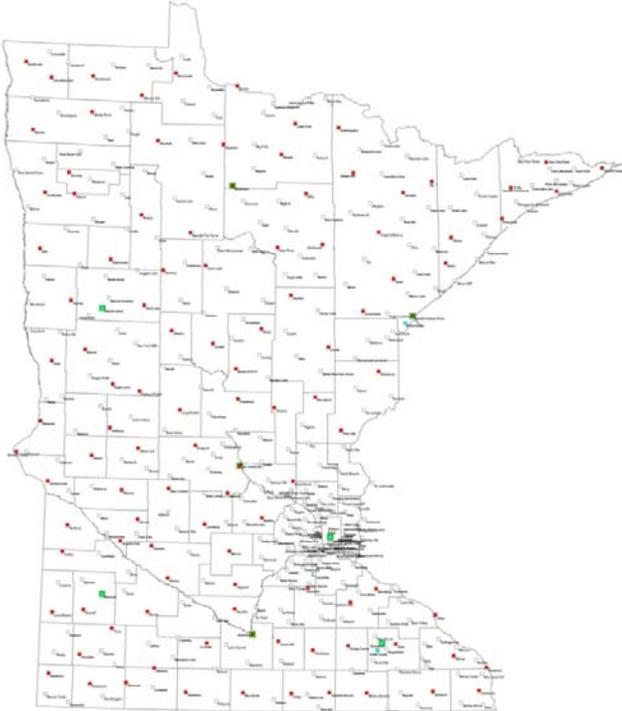


ARMER



The primary system for providing public safety radio interoperability in Minnesota is the Allied Radio Matrix for Emergency Response (ARMER). ARMER is a 700/800 MHz, trunked, Project 25 (P25) standards-based shared radio system offering the highest level of interoperability to state, local, and regional agencies in Minnesota that join ARMER. The ARMER Backbone is built to 95% Mobile coverage by County, with additional sites built in by local participants.

ARMER Cross Spectrum Interoperability System



The Cross-Spectrum Interoperability System (CSIS) interconnects VHF interoperability radio equipment at 109 non-metro ARMER radio sites to the ARMER backbone. This overlay works seamlessly in conjunction with the existing Metro Region VHF system but is not physically connected to the metro system.

ARMER System Description:

The fundamental building block of Minnesota's strategy for public safety communication interoperability is the statewide implementation of an open standards digitally trunked communication system, known as the Allied Radio Matrix for Emergency Response (ARMER). The ARMER system was first implemented in the Twin City metropolitan area in 2001. The subsequent plan for a statewide system was adopted by the Minnesota legislature in 2002. An essential element in Minnesota's strategy is that the ARMER plan provides the opportunity for all public safety/service entities operating in the state to achieve the highest level of interoperability by operating on a shared platform. That platform is a scalable 800 and 700 MHz digital trunked radio system with specific details of the system and its implementation maintained on the Statewide Emergency Communications Board (SECB) website at <https://dps.mn.gov/entity/srb>.

In addition to providing the opportunity for all public safety agencies to operate on a common communication backbone, the ARMER system provides a statewide infrastructure that can be used to link existing public safety resources together. Utilizing this "system of systems" approach, Minnesota's plan provides for cross-spectrum interoperability with existing legacy communication systems and non-ARMER systems at a number of levels through shared radios, gateways through console based patches and a Very High Frequency (VHF) frequency overlay. These cross-spectrum interoperability strategies are also being applied to address public safety communication interoperability needs with neighboring states and along the international border with Canada. More specific technical details of this cross spectrum interoperability and "system of systems" approach can be found in the VHF Interoperability Infrastructure Report maintained on the (SECB) website.

ARMER Governance:

The Statewide Emergency Communications Board (SECB) and Regional Radio Boards are at the center of Minnesota's interoperable communications governance structure. Reporting to each board are sub-committees and workgroups.

Statewide Emergency Communications Board (SECB)

The Statewide Emergency Communications Board is established by [Minnesota Statute 403](#): "Emergency and Public Safety Communications," last revised in 2012. Among many other provisions, this statute:

- Directs the commissioner of Public Safety to "convene and chair the Statewide Emergency Communications Board to develop a project plan for a statewide, shared, trunked public safety radio communication system. The system may be referred to as 'Allied Radio Matrix for Emergency Response,' or 'ARMER.'"
- Requires local units of government receiving state funds for integrating with ARMER to file an integration plan with the Statewide Emergency Communications Board
- Directs the Statewide Emergency Communications Board to explore opportunities for interoperability with neighboring states and Canadian provinces
- Develop standards and guidelines for use and integration of public and private communications infrastructure.

The SECB by-Laws and the Minnesota State Communications Interoperability Plan (SCIP) may be found at <https://dps.mn.gov/entity/srb>

Useful Websites

American Radio Relay League (ARRL): www.arrl.org
APCO International: www.apcointl.org
APCO MN www.apco-mn.org
CASM: <https://franz.spawar.navy.mil>
DHS OEC: www.dhs.gov/xabout/structure/gc_1189774174005.shtm
EMAC: www.emacweb.org
FCC Enforcement Bureau: www.fcc.gov/eb
FCC Public Safety & Homeland Security Bureau: www.fcc.gov/pshs
FCC Special Temporary Authority (STA): www.fcc.gov/pshs/services/sta.html
FCC ULS: wireless.fcc.gov/uls
FEMA: www.fema.gov
Government Emergency Telecommunications Service (GETS): gets.ncs.gov
Homeland Security Information Network: www.hsin.gov
Lessons Learned Information Sharing: www.llis.gov
Statewide Emergency Communications Board: <https://dps.mn.gov/entity/srb>
Minnesota Radio Regions: <https://dps.mn.gov/entity/srb>
National Interagency Fire Center (NIFC): www.nifc.gov
National Interagency Incident Communications: www.fs.fed.us/fire/niicd
National Interoperability Information Exchange (NIIX): www.niix.org
National Regional Planning Council (NRPC) www.nrpc.us
National Telecommunications & Information Administration (NTIA):
<http://www.ntia.doc.gov>
National Wildfire Coordinating Group (NWCG): www.nwcg.gov
NIMS Information: www.fema.gov/emergency/nims
NPSTC: www.npstc.org
Radio Reference: www.radioreference.com
SAFECOM: www.safecomprogram.gov
Wildland Fire Communications: www.fireradios.net
Wireless Priority Service (WPS): wps.ncs.gov

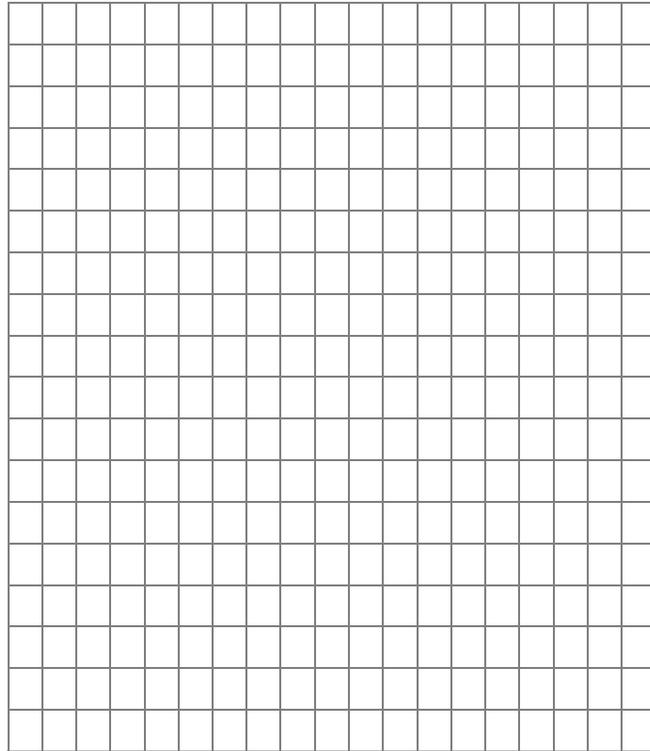
Further Reading

Other plans and SOPs/SOGs pertaining to public safety or interoperable communications relevant to Minnesota include the following:

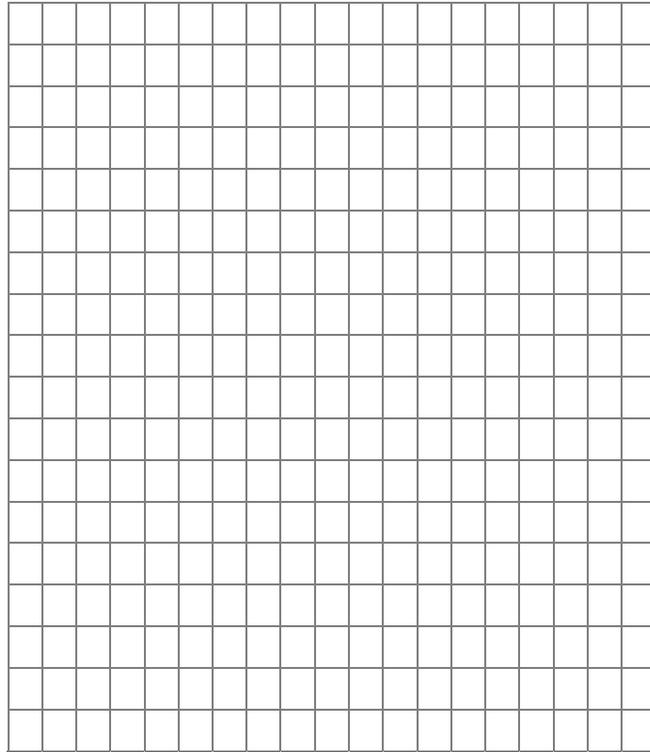
- Minnesota Statewide Communications Interoperability Plan (SCIP)
- Region 22 Plans for 700 MHz (RPC) and 800 MHz (NPSPAC)
- Tactical Interoperable Communications Plans (TICP):
 - Twin Cities Metro Area Security Initiative (UASI) TICP
 - Northwest Radio Region TICP
 - Northeast Radio Region TICP
 - Central Radio Region TICP
 - Southeast Radio Region TICP
 - South Central Radio Region TICP
 - Southwest Radio Region TICP
- National Emergency Communications Plan (NECP)
- State of Minnesota Annex to the FEMA Emergency Communications Plan
- Minnesota Emergency Management Plan
- Minnesota Public Safety Land Mobile Radio VHF Interoperable Frequency Plan
- Minnesota ARMER Standard Operating Procedures
- Minnesota Public Safety Land Mobile Radio Cross Spectrum Interoperability System Operations Plan
- Communications plans and best practices guides:
 - EMS Communications Plan
 - Hospital Communication Best Practices Guide
 - Law Enforcement Communication Best Practices Guide
 - Dispatchers Communication Best Practices Guide
 - Fire Communications Best Practices Guide
 - Minnesota Emergency Managers/Public Health Communications Best Practices Guide
 - Minnesota Public Works Communications Best Practices Guide

Most of these documents available at: <https://dps.mn.gov/divisions/ecn>

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Interoperability Continuum

