METROPOLITAN EMERGENCY SERVICES BOARD
RADIO TECHNICAL OPERATIONS COMMITTEE AGENDA

April 26, 2023, 1:00 p.m.

This meeting will be conducted in-person at the MESB Office, 2099 University Ave W, St Paul ONLY

1. **Call to Order** – Committee Vice-Chair, Ron Jansen

2. **Approval of Agenda** – Jansen

3. **Approval of Minutes of March 22, 2023 Meeting** – Jansen

4. **Action Items**
   A. Review/Approval of New Standard for LSEC Talkgroups – Tracey Fredrick/Jansen
   B. Changes to Standard 6.3.0 – Fredrick
   C. Feedback/Approval of SECB Standard GOV-4 – Fredrick
   D. Additions to Regional Needs Document – Fredrick
   E. Approval of Representatives to SECB Committees/Workgroups – Fredrick
      i. WBBA Alternate
      ii. LMR Alternate
      iii. STR Workgroup Primary

5. **Moves, Additions & Changes to the System**

6. **Committee Reports**
   A. System Managers Group Update – Jansen
   B. MnDOT ARMER System Update – John Anderson/Dave Klema/Shane Chatleain
   C. SECB Committees
      i. Steering – Fredrick/Jill Rohret
      ii. LMR – Nate Timm
      iii. WBBA – Rod Olson
      iv. IOC & Workgroups
         a. IOC – Thompson/Timm
         b. STR Workgroup – Mike Parker
         c. COMU Workgroup – Timm/Dan Anderson
      v. IPAWS – Scott Haas
      vi. Finance/Grants Workgroup – Fredrick/Rohret
      vii. State Encryption and Change Management Workgroups – all members

7. **Other Business**
   A. METAC Permission update – Fredrick
   B. Metro Change Management METCOM Item – Jansen/Fredrick
   C. Encryption Technical Guide Workgroup – Jansen/Fredrick
   D. Possible BDA Legislation/Action – Fredrick
   E. Vendor Technical Training Course – Fredrick

8. **Adjourn**

METROPOLITAN EMERGENCY SERVICES BOARD
RADIO TECHNICAL OPERATIONS COMMITTEE AGENDA

April 26, 2023, 1:00 p.m.

Reminder: Next meeting scheduled for May 24, 2023

Metropolitan Emergency Services Board

Radio Technical Operations Committee
March 22, 2023
Draft Meeting Minutes

Members

Airport - Ryan DeYoung
Anoka County - Cory DeMuth
Carver County - Peter Sauter
Chisago County - Jake Thompson
Dakota County - Ron Jansen
Hennepin County - Mike Parker
Isanti County - **absent**
Metro Region EMS - Victoria Vadnais
Metro Transit – Chad LeVasseur
Minneapolis - Rod Olson
Minnesota Fire Chiefs - Patrick Maynard
Ramsey County - Mike Mihelich
Scott County - Nick Schatz
Sherburne County - **absent**
Washington County - Nate Timm
U of M - Jeff Lessard

Guests: John Anderson, *MnDOT*; Dalton Gruber, *City of Bloomington*; Mike Lovas, *City of St. Paul*; Andrew LaVenture, *City of Edina*; Melinda Miller, *ECN*; John Schnoor, *Met Council*; Scott Haas, *Scott County*; Dave Theis, *U of M*

MESB Staff: Tracey Fredrick, Jill Rohret, Martha Ziese

1. Call to Order
Jake Thompson, Chair called the meeting to order at 1:00 p.m.

2. Approval of March 22, 2023 Agenda
Motion by Ron Jansen, seconded by Nick Schatz to approve the March 22, 2023 agenda. Motion carried.

3. Approval of January 25, 2023 Minutes
Ron Jansen asked that on page 4, 6A the last sentence “the repeater was disabled” be changed to “the repeater disable was disabled”.

Motion by Susan Bowler, seconded by Ron Jansen to approve the January 19, 2023 meeting minutes. Motion carried.

4. Action Items
A. Hennepin County CCGW Request
Mike Parker said the Hennepin County Sheriff’s Office is contracted to work security at Target Field for events. The Sheriff’s office would like to connect a MotoTRBO mobile radio to an HCSO dispatch site CCGW to provide the ability to patch the audio resource to an ARMER talkgroup.

Rod Olson asked if this could be used on regional talkgroups as well as Hennepin, as City of Minneapolis also has officers that work Target Field events. Parker said the current request is for Hennepin only, but it could be used for regional talkgroups as well.

Motion by Rod Olson, seconded by Cory DeMuth to approve Hennepin County’s CCGW request. Motion carried.

B. City of St. Paul LMR-53 Waiver Request
Mike Mihelich said the City of St. Paul has requested permission to install LMR to LTE interface

equipment to the Ramsey County sub-system. St. Paul would like to add 20 permanent interfaces between city-owned talkgroups and LTE devices using donor radios and a radio gateway. The request will support all of St. Paul emergency management radios and possible other city and Ramsey County users.

Mihelich said the initial setup will use two XTL 2500 mobile radios set to low power and the package implemented will be AT&T Enhanced Push-to-Talk.

Motion made by Ron Jansen, seconded by Cory DeMuth to approve the City of St Paul LMR-53 waiver request. Motion carried.

C. Review/Approval of New Standard for LSEC Talkgroups

Tracey Fredrick said the purpose of this standard is to establish policy and procedures for use of the metro region ARMER ME LSEC 1E – 8E talkgroups. These talkgroups are designated for Law Enforcement only and are configured as region-wide resources to facilitate interoperability communications. This policy will serve to minimize usage conflicts when an interoperability talkgroup is needed for an event or operational task that requires secured communications.

Fredrick said this talkgroup would be similar to the other talkgroup standards. There are some things that the group should define about home zone mapping information, patching requirements, and LTE gateway concerns.

Jill Rohret said that the group should consider tabling this item and making recommendations if it is not ready to be approved, but needing to make those recommendations or this will continue to stall.

Cory DeMuth asked if there would be restrictions on who can have the keys. Ron Jansen said these will continue to be like other encrypted talkgroups, for Law Enforcement only, unless securing a waiver.

Scott Haas asked if there was any consideration for not using talkgroup 1, similar to the statewides to keep for emergencies. Jansen said yes, it was considered, but since this range only goes to 8, and 1-4 are going to be DES talkgroups, there will likely not be the restriction on using talkgroup 1.

Motion by Ron Jansen, seconded by Cory DeMuth to table the acceptance of new Standard for LSEC Talkgroups. Motion carried.

D. Regional Needs Document Approval

Tracey Fredrick said the information for this document from the funding priority needs document for 2023 and the legislative priorities. This document is going to be presented to the legislature to attempt to gain some of the surplus money and be used for ongoing funding discussions.

Motion made by Ron Jansen, seconded by Victoria Vadnais to approve Regional Needs document. Motion carried.

5. Moves, Additions & Changes to the System

Dakota County still on track for moving to encryption in September 2023.

6. Committee Reports

A. Metro Mobility Usage Update – no changes

B. System Owners Group Update

John Anderson said the System Owners Group met this morning. New Motorola staff was introduced and contact information will be provided. RF interference will be an ongoing

discussion. There may be a state-wide standard written in the future.

Ethernet backhaul project is for the northeast region in process. Central is next on the list. Metro and zone 3 will be over the summer. Zone 2 in fall. All equipment is ready.

C. MnDOT ARMER System Update
John Anderson said next system upgrade will likely be mid-2024. During the ethernet project, there has also been consideration for replacing firewalls. Currently in process of getting a quote from Palo Alto for 250 firewalls.

Nick Schatz said that Scott County looked into getting a cybersecurity grant to cover the firewall cost, but the availability and timing of the grant would not work. There would be 50 metro-wide at the edge protection sites that will need to be covered for protection of the ARMER system.

Jake Thompson asked if the cost of the firewall would be on the system owners. Anderson said he would check with Shane Chatleain.

Schatz asked if the Gen1 GTR series would be replaced during the SUA upgrade. Anderson said that there are currently some equipment ordering problems, but that Motorola remains committed to replacing the Gen1's.

Nate Timm asked if IV&D would be included in the upgrade at no cost. Anderson stated he was unsure of that. Mike Mihelich noted that, in his discussions with Motorola, there are two IV&D offerings, Classic and Enhanced. Classic would be the option available at no cost; KMF and PTT are included with that option.

D. SECB Committees
i. Steering
Tracey Fredrick said the Steering committee met earlier in the month and discussed creating a new standard for the process of the creating and review of standards, creating a Steering Committee Fact Sheet to assist with getting new membership and to focus the group, SECB Symposium will be held May 8-10 in St. Cloud, and Steering Committee is going back to meeting monthly.

ii. LMR
Nate Timm said the LMR Committee met March 14. Discussions included Dakota County's LMR to LTE installation for South Metro Fire, Cathy Anderson's retirement, the ARMER SCIP plan, SHSP funding, and the ECB regional needs.

iii. WBBA
Rod Olson said the WBBA Committee met yesterday. There were three announcements: Joe Laughlin is the new CEO of FirstNet, the Governor's Conference will be held at the Earle Brown Cultural Center April 24 and 25, and drone testing at Camp Ripley in August. The LTE workgroup will meet on March 31. SCIP goals and FY 2023-2024 budget needs requests were discussed.

iv. IOC & Workgroups
a. IOC
Jake Thompson the IOC met yesterday afternoon. Discussions included Cathy Anderson's retirement, committee vacancies, Interstate interoperability standards with both North Dakota and Iowa, COMU recognitions and renewals, SCIP goals, training grant money to be used for exercises, train derailment exercise, and committee attendance.

b. STR Workgroup
Nick Schatz said the STR Workgroup met on February 7. Discussions included the draft

manual for the STR trailer, and updates to MNFOG.

Ron Jansen asked if the generator the STR was ever purchased. Schatz said that the generator was purchased and installed last summer.

c. COMU workgroup
Nate Timm said there was a swap of a chair and vice-chair, the COMU renewals were discussed and John Dooley said the final MNFOG is almost ready.

v. IPAWS – no report

vi. Finance/Grants Workgroup
Tracey Fredrick said both groups met this month. The Finance Committee has set up an SECB Budget Workgroup which has begun meeting, continued discussion about the MOU for financial services, and approved a request for training with grant dollars from Central Region.

vii. State Encryption and Change Management Workgroups
Ron Jansen said there will be one more meeting. ATAC 2-14E are open for all.

7. Other Business
A. METAC Permission update
Tracey Fredrick said one new request was approved for 1-10 TG for the MN Pollution Control Agency.

B. Metro Change Management Update was covered in previous discussion

C. SAFECOM Nationwide Survey Information
Tracey Fredrick said the information is included in packet, Chad Steffen is the representative for MN and stressed the importance of filling out the survey once it becomes available.

D. BDA Information
Ron Jansen said Dakota County installed a BDA at the DCTC but there was some echoing. The discussion has been about creating a standard. With the influx of vendors installing devices, it would be helpful to have something in writing to assist with discussions for these going in near tower sites. More discussion about having FCC involvement, if needed. MnDOT also has an info sheet to go to the vendors. The standard would assist in having the same message from all agencies. It may also assist in being able to locate devices with the registration.

Dave Theis said a standard would not ensure what the vendor did, that would be up to the agency to ensure it was followed. The user would need to be held responsible.

Jill Rohret said it seems that there has been various success at getting the vendors to respond to agency requests. Nate Timm and Ron Jansen both commented that they reached out to vendors (RF Connect) after the previous TOC discussion and had some success. It could also be worthwhile to go the legislature in 2024 with a statutory mandate to require registration of these devices. If the board or legislature doesn't find value, we could have the Board consider regulations for each county or city for these devices.

E. ARMER Firewall at Subsystem Sites was covered in previous discussion

F. Contract Review RFP Discussion
Tracey Fredrick said the group met in January. Wondered if there could be a review workgroup from the TOC, rather than have to have an RFP. Workgroup had concerns that the MESB wouldn't be billing out; each agency would use as they desire.

Metropolitan Emergency Services Board

G. Quarterly Metro Tech Meeting
Ron Jansen said since the Metro Owners Group dissolved, there has been interest in having a group put together for vendors to be able to come in and do “tech talks” for the region. There is desire to have this so that vendors would not have to make the same presentation for every agency.

8. Adjournment
The meeting was adjourned at 2:31 PM.

Metro Region ARMER Standards

Section 3 – Metro 3.15.0 Use of Metro ARMER ME LSEC Talkgroups
Date Established **05-10-23**
Date Revised/Reviewed **05-10-23**

1. Purpose or Objective

The purpose of this standard is to establish policy and procedures for use of the metro region ARMER ME LSEC 1E – 8E talkgroups. These talkgroups are designated for Law Enforcement only and are configured as region-wide resources to facilitate interoperability communications. This policy will serve to minimize usage conflicts when an interoperability talkgroup is needed for an event or operational task that requires secured communications.

2. Technical Background

- Capabilities –
  It is possible to have access to ME LSEC talkgroups in radios used by metro Law Enforcement agencies that share use of the ARMER system. These common talkgroups can be used for a wide range of interoperable communication when coordination of activities between personnel of different agencies is needed on an event or operational task. Patching of these talkgroups is prohibited to non-encrypted (clear mode) talkgroups.

- Constraints –
  Some of these talkgroups may be used as part of a soft patch to local encrypted talkgroups that are restricted for use by personnel of specific services. The dispatch center creating the patch is responsible for checking for proper talkgroup authorizations when creating soft patches.

  Because many different agencies may be communicating with one another, for purposes of safety, plain English/common terminology must be used when communicating on these regional resources. The use of ten codes is not permitted. This pertains to direct or indirect (when in a soft patch) use of these regional resources.

  Radio User personnel using these talkgroups should understand the restrictions and availability of the use of these resources as primarily communications as it relates to their communication needs.

  ME LSEC are not to be used for an internal operations or events where only local agencies are communicating. ME LSEC should be used when secured interoperable communications is needed, or likely, with multiple regional agencies.

  ME LSEC 1E – 4E are DES-OFB encrypted

  ME LSEC 5E – 8E are AES encrypted

  Metro region-wide ARMER talkgroups may only be in one patch at a time.

3. **Operational Context**

These talkgroups are metro region resources meant to facilitate communication between Law Enforcement agencies that typically do not communicate with each other on a regular basis.

If regional non- Law Enforcement agencies desire use of the ME LSEC talkgroups, a waiver proposal should be sent to the MESB Radio Service Coordinator for consideration by the Radio Technical and Operations Committee (TOC).

Law Enforcement Agencies not included under the MESB joint powers agreement require written permission from the MESB for use of the ME LSEC talkgroups. A proposal request should be sent to the MESB Radio Service Coordinator for consideration by the Radio Technical and Operations Committee (TOC).

4. **Recommended Protocol/Standard**

ME LSEC 1E – 4E Talkgroups

TG Requirements	**For Whom?**
Highly Recommended	Metro Law Enforcement mobiles and portables PSAPs
Highly Recommended	All Console positions where Law Enforcement agencies are dispatched, mobiles and portables

In order to meet the communication needs for an event or operational task, ME LSEC 1E – 4E talkgroups may be patched to local encrypted talkgroups only.

ME LSEC 5E – 8E Talkgroups

TG Requirements	**For Whom?**
Optional	Metro Law Enforcement mobiles and portables PSAPs
Optional	All Console positions where Law Enforcement agencies are dispatched, mobiles and portables

To meet the communication needs for an event or operational task, ME LSEC 5E – 8E talkgroups may be patched to local encrypted talkgroups only.

ME LSEC 5E – 8E talkgroups use AES encryption algorithm and may not be supported in all subscriber radios or console positions.

Some PSAP's may not have the current console capacity to accommodate ME LSECB 5E-8E. It is important to note the ME LSEC 1E, ME LSEC 2E, ME LSEC 5E and ME LSEC 6E are all home zone mapped to Zone 1. While ME LSEC 3E, ME LSEC 4E, ME LSEC 7E and ME LSEC 8E are all home zone mapped to Zone 2. This should be taken into consideration when reserving these resources in the event they need to be included in a soft patch.

Cross Patch Standard	**Yes/No**	**Talkgroup(s)**
Soft Patch	Yes	Encrypted only
Hard Patch	No	None
LTE Gateway	No	None

Note: These talkgroups are mapped to different home zones. The recommended method of utilization in a patch is as follows:

Recommended for Zone 1 PSAPs (Anoka, Carver, Chisago, Dakota, Isanti, Scott, Washington, City of Minneapolis): ME LSEC 8E, ME LSEC 7E, ME LSEC 4E, ME LSEC 3E

Recommended for Zone 2 PSAPs (Hennepin, Ramsey): ME LSEC 6E, ME LSEC 5E, ME LSEC 2E, ME LSEC 1E

Sherburne County is home zone mapped in Zone 4, so the recommended guidelines above will not apply.

To minimize the use of RF resources in a patch, it is encouraged for PSAPs to utilize the talkgroups in the PSAPs home zone referenced in the preceding sections.

ME LSEC talkgroups may only be patched to another talkgroup encrypted by ADP, DES, or AES encryption.

None of the ME LSEC talkgroups shall be part of any system-configured multi-group configuration.

The ME LSEC talkgroups shall only be used when there is a significant need for interagency communications and other suitable means for interagency communications are unavailable, to avoid a reduction in availability of these resources when needed for important events.

The Status Board application will be used to manage reservations and usage of these talkgroup resources.

5. Recommended Procedure

The ME LSEC talkgroups may either be used directly or be patched to other encrypted resources to meet the communication needs of an event or operational task.

When formulating communications plans, COMLs should check with the agencies involved in interoperability events to see what shared resources are available.

When a resource is needed, the requesting agency will contact the appropriate metro region ARMER dispatch center to have the next preferred available talkgroup granted. The dispatch center will utilize the Status Board application to identify the status of the resource.

At the conclusion of the event, the ARMER dispatch center will remove any patches that were used for the event and update Status Board.

NOTE: Dispatch centers initiating any soft patches must announce the patch after it is set up AND prior to it being taken down.

6. Management

Metro Region dispatch center managers and supervisors for agencies on the ARMER system shall ensure that this procedure for usage and assignment of the ME LSEC talkgroups be adhered to, as well as the setting up of soft patches for which they are responsible.

The Minnesota Status Board System Administrator shall be responsible for the Status Board application.

Dispatch center operators shall receive initial and continuing training on the use of this procedure.

The Metropolitan Emergency Services Board will be responsible for the ME LSEC encryption keys.

Metro Region ARMER Standards

Section 6 – Metro 6.3.0 Site Lease, Property Insurance and Utility Costs

Date Established **8-27-01**
Date Revised/Reviewed **1-5-234-24-19**

1. **Purpose or Objective**
   The purpose of this standard is to outline a procedure for determining costs of site leases and utilities for operation of the metropolitan region of the ARMER system and for billing each agency its prorated share. The standard is governed by Minnesota Statute 403.31, which allows for operating costs to be spread across the users of the system, and by the various cooperative agreements between the Board and the governmental entities whicho are full participants in the metropolitan region of the ARMER system.

2. **Technical Background**
   - **Capabilities:** None
   - **Constraints:** None

3. **Operational Context**
   In 2007, the Minnesota Legislature approved funding for the operating costs of the ARMER system backbone, which became effective July 1, 2007. Prior to that, the metropolitan region was responsible to pay for 46.4% of the backbone operating costs; funds to pay these costs were raised via user fees charged by the Metropolitan Radio Board and later, the Metropolitan Emergency Services Board (MESB). Effective July 1, 2007, the MESB ceased charging user fees to metro ARMER system users. Local ARMER subsystem owners are only responsible to pay the operating costs of their local enhancements to the system, including any changes made after the original lease; these costs, which bill quarterly in accordance with cooperative agreements.

4. **Recommended Protocol / Standard**
   The standard is governed by the cooperative agreement among the parties.

5. **Recommended Procedure**
   Each year, during the MESB's annual budgeting process, MESB staff shall prepare an estimate of the projected lease and utilities costs to be covered for the upcoming calendar year. This procedure shall be accomplished by the regular July meeting of the Board. Lease and utilities costs are the actual costs incurred by the Board and shall be billed quarterly within 30 days following each calendar quarter beginning with the first quarter of 2002.

   Each entity shall be informed of the amount projected to be charged for the following calendar year no later than August 1st of the year preceding the budget year.

   If any entity which keeps equipment onat a leased site wishes to makes changes to the equipment housed there, including the placement of antennas, the changes will be reported to the MESB in writing as soon as feasibly possible after thethe need for the changes are madeis known. If the changes include antenna location changes, new tower mapping drawings may be required to be submitted by the agency requesting the change(s). The MESB will communicate with the lessor to determine if the desired changes fall within the scope of the lease or if a lease amendment, which may include a change in rent, will be

required. *At no time will any subsystem owner make equipment changes at a leased site without the express written permission from the MESB and the site lessor.* ~~If said changes impact lease and/or utility costs, those changes will be made immediately and made known to the entity.~~

When changes are made, MnDOT and the MESB shall adjust the cost allocation for the affected site for both rent and utilities. MESB will notify equipment owners at the affected site of the changes to the rent/utilities allocation as soon as practicable.

6. Management

The MESB Executive Director ~~of the Board is~~and Radio Services Coordinator are responsible for managing this procedure.

Standard GOV-4
SECB Standards: Development and Maintenance

Purpose

The purpose of this standard is to define the process for developing and maintaining Statewide Emergency Communication Board (SECB) standards.

Statement of Standard

As necessary, committees operating under SECB authority will consult subject matter experts to share knowledge and develop standards that support the governance, operational, and technical needs of Minnesota's emergency communications stakeholder community. In developing and maintaining these standards, the SECB committees will adopt the following process.

Standards Development

Standard Proposal: Any member of an SECB committee may propose a new standard. Prior to proposing a new standard, it is recommended that existing SECB standards be reviewed to eliminate potential duplication and/or conflict.

Drafting a New Standard: In most situations, the SECB committee will delegate the responsibility for drafting a new standard to a committee workgroup. As they collaborate to develop a new standard, the workgroup members may consult a variety of sources including relevant standards already developed by other standardizing bodies (NENA, APCO, etc.).

Committee Review: Once completed, the workgroup should present the draft standard to the appropriate SECB committee(s) for initial review.

Regional Review: If the draft standard receives initial approval from the SECB committee(s), it will be disseminated to the regional Emergency Communications/Emergency Services Boards for review and comment.

Standard Approval: Once vetted by the regional Emergency Communications/Emergency Services Boards, the draft standard will be presented back to the SECB committee(s) and the SECB for final approval.

Publication: Once approved, the standard will be published on the SECB website and socialized with the emergency communications stakeholder community.

Adoption: Once socialized, it is recommended that the members of each regional Emergency Communications/Emergency Services Board and other affected parties involved in supporting

Minnesota's emergency communications ecosystem implement the standard and train their personnel accordingly.

Standards Maintenance

Standards should be reviewed by the appropriate SECB committee(s) on an annual basis to ensure that they are aligned with current governance, operational, and technical practices.

Authority

Minnesota State Statutes 403.36, 403.37, and 403.382 authorize the SECB to establish and enforce standards related to emergency communications.

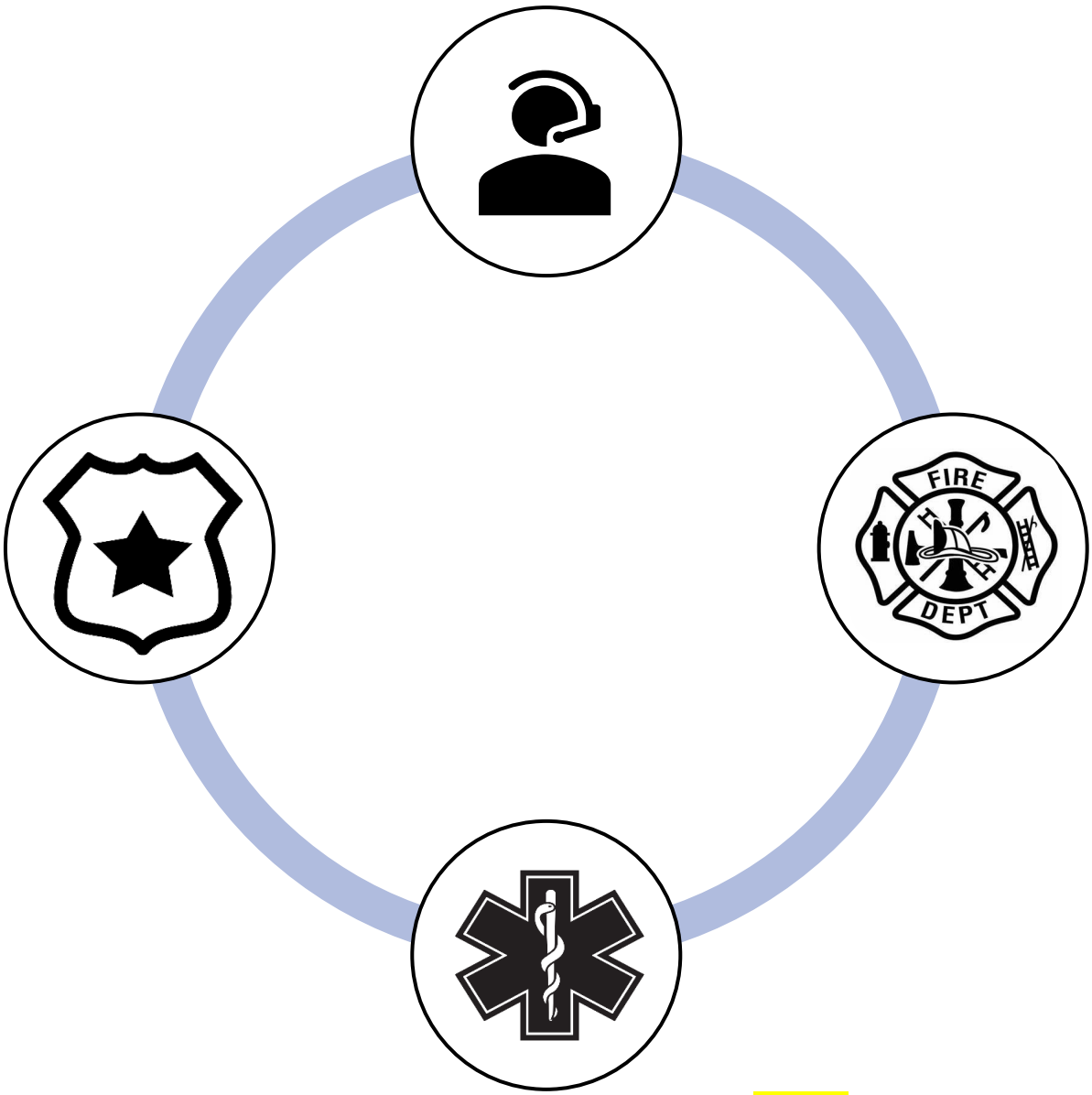
The SECB Steering Committee is responsible for the oversight and maintenance of this standard.

Document History

Created 03/02/2023
Revisions
Approved

Metropolitan Emergency Services Board

Regional Needs: The Public Safety Emergency Communications Ecosystem



DRAFT: March 28, 2023

The Metropolitan Emergency Services Board

The Metropolitan Emergency Services Board (MESB) is one of seven regional Emergency Communications Boards (ECBs) and Emergency Services Boards (ESBs) in the state of Minnesota. The MESB was established under MSS 471.59, MSS 403.39 and MSS 403.392 to provide local governance on matters related to emergency communications (9-1-1 and ARMER), as well serving as the regional EMS system for the metro region. The MESB is a joint powers board composed of the following entities: Anoka County; Carver County; Chisago County; Dakota County; Hennepin County; Isanti County; Ramsey County; Scott County; Sherburne County; Washington County; and the City of Minneapolis.

The Public Safety Emergency Communications Ecosystem

With approximately 94,000 active radios (MnDOT, October 2022), the statewide Allied Radio Matrix for Emergency Response (ARMER) system, built by Motorola Solutions and owned and operated by the Minnesota Department of Transportation (MnDOT), provides interoperable Land Mobile Radio (LMR) communication capabilities to 9-1-1 emergency communication centers (ECCs) (also known as Public Safety Answering Points or PSAPs), law enforcement, fire, Emergency Medical Services (EMS), emergency management, public works, and other public safety users across Minnesota.

Construction of the ARMER system in the Twin Cities metropolitan region began in the late 1990s and expanded to include greater Minnesota in the mid-2000s. In late 2020, the MnDOT completed its backbone of the ARMER system buildout. There are now 335 state-maintained and 100 locally maintained ARMER tower sites on-the-air across Minnesota that provide ARMER system radio coverage (mobile only) to 95% of the state's geographic area. Of the 100 locally maintained ARMER tower sites, 54 are in the metro region.

As the ARMER system matures, there is a need to maintain and replace or upgrade aging infrastructure, equipment, and technology. The Statewide Emergency Communication Board (SECB) and state agencies are currently working to develop a capital improvement plan to address this need.

In 1979, the Metropolitan 9-1-1 Telephone Board was formed as a joint powers board of the seven metropolitan counties to plan, design, and implement the first multi-jurisdictional enhanced 9-1-1 (E9-1-1) system in the United States. This system went live at midnight, December 1, 1982, and provided the basis for the statewide buildout of E9-1-1. Today, all 108 PSAPs in the state are part of the statewide 9-1-1 network. Of the 108 PSAPs, 24 are located in the metro region. The 9-1-1 network is in process of transitioning from E9-1-1 to Next Generation 9-1-1, which will provide PSAPs additional abilities to answer texts, receive photos and videos, provide improved 9-1-1 caller location, and provide pre-determined rules for routing of 9-1-1 calls.

Today, the Department of Public Safety contracts and pays for the statewide 9-1-1 system. Local governments pay for costs associated with receiving 9-1-1 calls and dispatching public

safety responders. Local government costs include maintaining the physical PSAP; salaries/benefits for PSAP employees, including public safety telecommunicators (PSTs), administration staff, technical staff, and in some cases, dedicated GIS staff; purchase and maintenance of call handling equipment (CHE) used to answer 9-1-1 calls; purchase and maintenance of communications/radio equipment used to dispatch response to 9-1-1 calls; software or subscription services to maintain the PSAP's 9-1-1 data and services, including GIS data; and software or subscription services to provide Integrated Public Alert and Warning Systems (IPAWS) alerts to the public. Much like the ARMER system, as the 9-1-1 network and 9-1-1 systems continue to evolve, there is a need to maintain, upgrade, or replace aging equipment to allow for new technology to meet the expectations of the public, which would like to communicate with 9-1-1 in the way the public communicates with one another.

Much like hardships of recruitment and retention of staff across public safety disciplines, PSAPs today face difficulty in maintaining a full-complement of PSTs which are needed to answer a PSAP's specific volume of 9-1-1 and administrative calls. PSAPs also face difficulty in recruiting new people to serve as PSTs, as many people do not wish to work in a high-stress environment or work nights, weekends, and/or holidays, which is required in a public safety field.

Funding Considerations

The State of Minnesota's portion of the costs associated with operating the ARMER system is funded through a combination of trunk highway funds, 9-1-1 special revenue funds, and radio tower lease receipts.

Except for PSAP equipment and a limited portion of local infrastructure expenses which can be funded via the 9-1-1 special revenue fund, local costs (including tower site leases, utilities, and system and equipment maintenance) associated with the ARMER system are typically funded via local property tax revenues or per radio charges to ARMER system users in a county. Due to these constraints, public safety agencies across Minnesota face significant funding challenges related to the escalating costs of maintenance of ARMER system infrastructure, equipment, and technology. Without access to stable, adequate supplemental funding sources, it will be increasingly difficult for local entities to support their ongoing ARMER system maintenance and sustainment needs.

Regional Priorities

Though this document covers region-wide needs only, and does not include individual needs of counties, that is not to say that these regional priorities will not benefit each of the ten metro counties individually. What follows are priorities that metro region agencies agree are a priority.

Computer-Aided Dispatch (CAD)-to-CAD Interoperability Solution

The 24 primary and secondary PSAPs in the metro region desire to acquire a CAD-to-CAD integration solution designed to connect disparate CAD systems for the purpose of expediting emergency response which may cross jurisdictional and PSAP boundaries.

The solution would also provide improved situational awareness for metro region PSAPs. Such a solution was found to be a need in the Metropolitan Emergency Services Board's May/June 2020 Civil Unrest After-Action Report/Improvement Plan. The solution could allow other PSAPs to answer 9-1-1 calls intended for a PSAP which has been inundated with 9-1-1 calls; this will provide 9-1-1 callers with better service in extraordinary situations/events.

Estimated Metro Region cost: ~$180,000 per year, plus one-time implementation costs of approximately $30,500*

*This item is included in HF 2431/SF 2454

BDA Requests

Several buildings in the region have been identified as having radio coverage gaps and would benefit from having bi-directional amplifiers (BDA) installed. This would assist first responders with radios be able to assist and be heard on the radio no matter where in a building the responder is located.

Estimated Metro Region cost: ~$3 million*

*This item included in HF 2431/SF 2454

GIS Software Services – School Mapping

With the frequency of mass shootings/armed assailant incidents increasing nationwide, and in reviewing the response to recent school shootings, primarily in Uvalde, TX, the metro region would like to implement school mapping, whereby maps of schools would be available in each PSAP, which could facilitate the location of 9-1-1 callers within the building. Additionally, having these resources available could provide first responders with information that could affect emergency response, such as locations of chemistry labs, etc. which could alter responders' plans.

Estimated Metro Region cost: ~$400,000 in one-time implementation costs and $40,000 per year in annual maintenance costs*

*This item included in HF 2431/SF 2454

GIS Software Services

GIS software services are needed to support the creation, conversion, and maintenance of GIS-derived Master Street Address Guides (MSAGs) for the PSAPs in the ten-county metropolitan region. These services would further integrate the region's legacy 9-1-1 data processes with those needed for NG9-1-1. The outcomes include improving 9-1-1 data accuracy, gaining operational efficiency, and maintaining 9-1-1 data synchronization during the transition to full i3 NG9-1-1 implementation. Additionally, a web-based map viewer will allow for all metro region PSAPs and GIS partners to have visibility to the region's current NG9-1-1 and related geospatial datasets in a secure, shared environment, allowing for seamless data sharing, greater collaboration, and improved data integrity.

Estimated Metro Region cost: ~$180,000 per year, plus one-time implementation costs of approximately $30,500 for generalized GIS software services
~$344,059 for five years for the web-based data viewer, plus $8,279 in one-time implementation costs.

AES Encryption

The Statewide Emergency Communication Board (SECB) recommends a transition to a higher level of encryption (AES or Advanced Encryption Standard) for sensitive radio transmissions on the ARMER system. To achieve this capability, supplemental funding is necessary to replace and/or upgrade existing ARMER system equipment.

Estimated Metro Region cost: ~$8.4 million

Geo-Diverse 9-1-1 Call Handling Equipment (CHE) ESInet Connections

Many Minnesota PSAPs are taking advantage of geo-diverse technology with new CHE platforms that allow for 9-1-1 calls to be delivered to two locations simultaneously. Geo-diverse configurations split the A and B servers typically found at one location, into two separate geo-diverse locations, which allows for additional staff at another location, or PSAP, during extremely busy times or special events to answer 9-1-1 and administrative calls while the main PSAP is still active. It also allows the PSAP to abandon its primary location while the backup location is fully operational and gives the opportunity for a staged evacuation while staff is enroute to the backup location. Additionally, the main PSAP can operate on the connections that exist at its backup location if the main PSAP experiences any technical issues with its connections. To allow for full redundancy and resiliency, each PSAP utilizing geo-diverse CHE should have two Emergency Services Internet (ESInet) connections at each location to ensure the maximum number of 9-1-1 calls can be received at either location at any time, regardless of any problems occurring at the other location. Currently, ECN only pays for two ESInet connections at each PSAP, which is the typical setup for legacy CHE. ECN should reconsider its position and pay for four ESInet connections for PSAPs which implement geo-diverse CHE systems. Having four ESInet connections provides improved resiliency and redundancy to a PSAP's 9-1-1 system and best serves the residents of its jurisdiction.

Estimated Metro Region cost: ~$12,000 per PSAP per year, or $216,000 annually in addition to ECN's current costs

Vendor-provided Radio Technical Training

According to SECB standard, system administrators must go through training at least once every two years. To keep current with evolving technology, administrators request to attend training provided by a contracted technical vendor to fulfill this need.

Estimated Metro Region cost: ~$40,000per year

CRTF Training and Exercising

The Metro Communications Response Task Force (CRTF) holds quarterly training/exercises for deployable personnel to remain current on local, state, and national standards. These deployable personnel typically are assigned to assist in the field, the command post, EOCs, and PSAPs during planned and emergent events.

Estimated Metro Region cost: ~$10,000 per year

Staff Recruitment & Retention

Public safety disciplines, including PSAPs and LMR technology departments, struggle to recruit and retain employees. There is a need to establish a program to actively recruit new staff and to retain employees. The Emergency Medical Services Regulatory Board has established a pilot grant to focus on EMS employee sustainability. Similar programs should be instituted for other public safety disciplines, though with this request the focus is on public safety telecommunicators and system technologists. The metro region would like to contract with a vendor to place targeted recruitment ads via radio, flyers, videos, and social media platforms.

Estimated Metro Region cost: ~$100,000 per year

ARMER Infrastructure not included in SUA2+ Contract

Every five years, the State of Minnesota (specifically MnDOT) enters into a service contract with Motorola for maintenance and upgrades to the ARMER system. There is a current upgrade need to transition sites from T1 to Ethernet backhaul transport.

Estimated Metro Region cost: ~$500,000

Metro Mobility Usage
(Hours:Mins:Secs)
2023

Please Note: The report from Metro Mobility will be given at the end of the quarter beginning in 2023

Month	City Center	Anoka (Lino Lakes)	Dakota	Norwood	Hastings	North Branch	Hennepin West	Overall
January	81:59:20	39:25:48	39:16:49	16:23:38	48:09:18		23:34:05	248:48:58
February	50:43:52	20:04:18	21:58:55	7:24:28	30:58:53		12:56:15	144:06:41
March	51:59:40	19:47:27	24:20:18	8:22:14	34:02:08		15:09:49	153:41:36
April								
May								
June								
July								
August								
September								
October								
November								
December								
Difference since Jan. 12	656:57:50	385:58:45	298:06:15	222:53:22	265:34:15	0:26:46	152:56:51	1982:54:04
Target	150:00:00	75:00:00	75:00:00	75:00:00	75:00:00	0:00:00	75:00:00	525:00:00