2019 – 2020
BIENNIAL REPORT

MINNESOTA DEPARTMENT OF PUBLIC SAFETY
DIVISION OF EMERGENCY COMMUNICATION NETWORKS
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There is nothing permanent except change. Change in technology, which is happening faster than we can implement. Change in our daily lives that causes us to re-evaluate the familiar processes we are accustomed to. Enter COVID-19: As public safety servants, we know that, in spite of our best planning efforts, incidents and emergencies occur in both our professional and our personal worlds for which we did not have a comprehensive plan. We learned that firsthand with a once-in-a-lifetime global pandemic. COVID-19 resulted in monumental changes for us both professionally and personally. Yet, we adapted on both sides.

COVID-19 protocols introduced challenging levels of effort we collectively embraced. While virtual meetings pale in comparison to in-person networking, Minnesota public safety professionals have made the most of the change and have done so with tremendous success. Civil unrest further rocked our world. Through these unprecedented times, we worked together to reprioritize and remain resilient to achieve success.

Aside from the pandemic, the Minnesota Department of Public Safety division of Emergency Communication Networks (DPS-ECN) faced challenges of its own over the past two years. Chief among them were significant changes in staffing as we said goodbye to several of our long-term colleagues and welcomed several new faces. Cathy Clark joined us from Minnesota Homeland Security and Emergency Management in the fall of 2019 as ECN deputy director. In the short time she’s been with us, Cathy has led many priority projects and now serves as the statewide interoperability coordinator (SWIC), with the goal of furthering statewide public safety interoperability initiatives in all four of our core programs: 911, Land Mobile Radio, Wireless Broadband, and Integrated Public Alert and Warning, between and among diverse public safety agencies and jurisdictional borders in Minnesota and beyond.

Staff departures included our 911 program manager, the ARMER program manager, ECN’s 911 analyst, ECN administrative assistant, and ECN’s financial coordinator. Since then, Sandi Stroud has skillfully stepped into the role of 911 program manager. Wendy Chretien joined us as a highly capable and organized 911 project manager. Claire Thomas has embraced her role as the ECN purchasing and contracts coordinator. Aleta Nimlos has been a wonderful addition as the administrative assistant supporting the Statewide Emergency Communication Board (SECB) and its committees. Rebeccah Roberts brings valued experience in grant management and joins the team as the ECN grants coordinator.

We are thrilled these five new enthusiastic professionals joined our team and did so in a telework environment. Their success is a combined result of their motivation and the efforts of the individuals who provided training, mentoring and guidance to assist them in growing and thriving in their new roles. With five remaining vacancies, we hope to become fully staffed over the course of the next year.

From advancing key initiatives in our core program areas, to supporting training, exercises, planning and grant supported initiatives, to sustaining Minnesota’s governance structure in support of our stakeholders, we are learning and adapting to new ways to connect and get our critical work done. This includes finding alternatives to our Public Safety Communications Conference, which was canceled in 2020 after a successful 10th annual conference in 2019. We hope you all will be able to join us as we host educational webinars on the second and fourth Tuesdays of each month throughout 2021 as an alternative mechanism to provide pertinent education and outreach learning opportunities after our conference was canceled again in 2021.

While we long for a sense of normalcy, we will continue to serve our public safety partners during these challenging times. We look forward to when it is safe for us to gather in person again. Until then, take comfort in knowing ECN is here to support the next emergency that crosses our paths.

When in doubt, choose change. And embrace it. While I cannot say whether things will get better if we change, I can say they must change if we are to get better.

Thank you,

Dana Wahlberg, Director
Emergency Communication Networks
The ECN funds and supports interoperable, public-safety-grade, mission-critical communication solutions that allow 911 dispatchers; emergency services personnel; and state, local, and federal agencies to communicate easily with each other to provide an immediate response to Minnesota citizens and visitors in an emergency.

Services Provided in 2019 and 2020

- ECN supported Public Safety Answering Points (PSAPs) and first responders in 20 counties along the Enbridge Line 3 construction route in Northeast and Northwest Minnesota on implementing a robust, web-based, situational awareness application called RapidDeploy. This application sends real-time information to first responders detailing location of incidents along with the availability of resources to respond to those incidents.

- ECN completed a comprehensive Alert, Warning and Notification Best Practices Guide to assist local jurisdictions with writing templates and managing their mass notification systems.

- In partnership with Minnesota Department of Transportation, ECN executed a five-year contract with Motorola Solutions, Inc. to provide system support, software and equipment upgrades to equipment for the Allied Radio Matrix for Emergency Response (ARMER) Statewide land mobile radio system.

- ECN executed a five-year contract with Inteliquent to design, provide and maintain the replacement of the 911 call aggregation solution toward continued statewide next generation 911 deployment.

- In partnership with the Minnesota Geospatial Information Office (MnGeo), ECN made progress on a statewide geospatial dataset that will be used to route 911 calls to the proper PSAPs in a Next-Generation 911 (NG-911) environment.

The ECN team conducted virtual meetings from home during the pandemic.
With the Minnesota Department of Health, ECN supported Gov. Tim Walz’s Executive Order 20-34, which included sharing positive COVID-19 addresses with PSAPs to provide added situational awareness to first responders.

ECN initiated stakeholder engagement for regional strategic planning, which will be included in the SECB Strategic Plan for 2022-2024.

**Operating Expenses**

ECN programs are funded with revenues collected from a 911 fee paid by every Minnesota telephone communications customer and deposited in the 911 Special Revenue Account. Those funds support:

- The statewide 911 program.
- The NG-911 network backbone, new features and functionality.
- Equipment and dispatch proficiency expenses for Minnesota PSAPs.
DIVISION OVERVIEW

- Debt service on revenue bonds sold to construct the statewide public safety land mobile radio system known as ARMER.
- The ARMER backbone maintenance and operation costs.
- The statewide wireless broadband program.
- The Integrated Public Alert and Warning System (IPAWS).
- Minnesota’s interoperability program.
- The SECB.

**FY 2019 Actual Expenses**

- MNDOT 7.19 Upgrade and Local Grant Cost: $3,071,833.47 (5%)
- ARMER Maintenance Budget: $9,662,000 (16%)
- ARMER Interoperability: $563,176.16 (1%)
- SECB Budget: $943,083.93 (2%)
- Text to 911: $46,488.40 (0%)
- NG911 GIS Project: $480,582.08 (1%)
- ECN Operating Budget: $1,472,331.34 (2%)
- 911/NG911 Operating Budget: $8,155,077.11 (13%)
- 911 PSAP Obligations: $13,664,000 (22%)
- Medical Resources: $683,000 (1%)
- ARMER Backbone Bond Debt: $23,261,000 (37%)

**FY 2020 Actual Expenses**

- MNDOT 7.19 Upgrade and Local Grant Cost: $3,071,833.47 (5%)
- ARMER Maintenance Budget: $9,675,000 (16%)
- ARMER Interoperability: $826,337.04 (1%)
- SECB Budget: $276,517.96 (0%)
- Text to 911: $24,000 (0%)
- NG911 GIS Project: $492,134.55 (1%)
- ECN Operating Budget: $1,574,248.02 (3%)
- 911/NG911 Operating Budget: $8,910,327.59 (14%)
- 911 PSAP Obligations: $13,664,000 (22%)
- Medical Resources: $683,000 (1%)
- ARMER Backbone Bond Debt: $23,261,000 (37%)

**FY 2021 Projected Expenses**

- NG911 GIS Project: $3,200,000 (5%)
- Text to 911: $300,000 (0%)
- ARMER/MNDOT 7.19: $1,100,000 (2%)
- ARMER SUA: $9,675,000 (15%)
- ARMER Interoperability: $1,000,000 (2%)
- SECB Budget: $1,000,000 (1%)
- ARMER Backbone Bond Debt: $10,652,250 (16%)
- Medical Resources: $683,000 (1%)
- Wireless Broadband: $1,000,000 (2%)
- IPAWS Interoperability: $1,000,000 (2%)
- 911/NG911 Operating Budget: $17,087,000 (26%)
- 911 PSAP Obligations: $13,664,000 (21%)
911 Service Disruptions

Over 2019 and 2020, Minnesota experienced a handful of service 911 disruptions. In examining the disruptions, ECN and Minnesota PSAPs identified a need for a crisis communications plan to appropriately alert the public of any issues. ECN is working to distribute that plan to stakeholders statewide and educate telecommunicators. This plan will assist them in better communicating with the public when they have questions during a disruption when things may be confusing.

Meanwhile, the Federal Communications Commission (FCC) fined the two service providers who were responsible for the Aug. 1, 2018 outage of Minnesota’s 911 system. The settlement determined that CenturyLink and West Safety Communications violated FCC rules when the human error caused the outage.

CenturyLink agreed to pay $400,000 and West agreed to pay $175,000 to the U.S. Treasury. The companies also worked together and with ECN to create plans that will:

- Identify risks of 911 service disruptions.
- Protect against those risks.
- Ensure detection of outages.
- Prepare to respond effectively to outages.
- Restore services as quickly as possible.

Both companies were required to report to the FCC on those compliance efforts through 2021. This work mirrors a Minnesota Public Utilities Commission order in June 2019 that directed CenturyLink to follow recommendations laid out by ECN and the Minnesota Department of Commerce.

Next Generation 911

ECN is responsible for supporting the network infrastructure necessary to deliver 911 calls to PSAPs. Unfortunately, this aging infrastructure:

- Does not support current and emerging NG-911 technology.
- Does not meet the expectations of the public to communicate with 911 the same way they do with family and friends with their smart phones.

To remedy this situation, ECN is in the process of selecting a new vendor to provide 911 network infrastructure.

GIS Project

Through this project, Geographic Information System (GIS) geospatial data will replace the Master Street Address Guide (MSAG) tabular data as the source data for the routing of 911 calls. This data point assists with location validation and determining the appropriate responding agencies.
Unlike land lines, cell phones aren’t associated with any one place. But in 2020, wireless devices were used to make over 85 percent of 911 calls in Minnesota, up from 80 percent in 2018. This means PSAPs need to be able to determine the cell phone’s location if the caller can’t specify it.

ECN is partnering with the Minnesota Geospatial Information Office to work with counties, cities, and tribal nations to seamlessly stitch together the data set like a large puzzle. As big an undertaking as that is, however, it’s only one-third of the collaborative effort to accurately locate 911 callers and texters.

The other two parts involve cell phone carriers and equipment. Carriers such as Verizon and AT&T will implement technology that can send location information to the correct dispatcher when a 911 call or text is made. The call-handling equipment the dispatchers use to answer 911 calls must also be upgraded; that way it can interact with the more sophisticated mapping system to plot the caller or texter’s location.

Improving the location accuracy for 911 calls and texts in Minnesota is a huge undertaking, but it will be worth all the hard work. The faster help can get to you, the more help they can provide.

Text-to-911

In December 2020, Minnesota’s Text-to-911 program celebrated three years of service. ECN has deployed Text-to-911 capabilities on a regional/local level across the state, with PSAPs fielding about 7,000 Text-to-911 transactions each in 2019 and 2020.

The Text-to-911 program continues to gain recognition for its work. In March 2019, ECN was the recipient of the Access Award by the Minnesota Commission of the Deaf, DeafBlind, & Hard of Hearing. The honor acknowledges ECN for the notable work of contributing to communication equity; that is, the concept that everyone, regardless of ability, should be able to gain access to the information and services they need. ECN is committed to the continuing education of the deaf, deafblind and hard-of-hearing community in the use of this service.

ECN receives the 2019 Deaf, DeafBlind and Hard of Hearing Access Award.
**National Suicide Prevention Lifeline**

In July 2020, the FCC adopted an order approving 988 as the three-digit abbreviated dialing code to reach the National Suicide Prevention Lifeline. This will be operational starting July 16, 2022. Until then, customers must continue to dial 800-273-TALK (8255) to reach the lifeline.

For 988 to work nationally, 10-digit local dialing must first be implemented in two Minnesota area codes that have not made it mandatory and who have 988 as a prefix. This will apply to everyone in Minnesota area codes 218 and 952 so that everyone can access the National Suicide Prevention Lifeline using the three-digit number.

That means dialing seven digits for local calls will be prohibited for all customers in the entire area codes listed above. Starting April 24, 2021, people should start dialing 10 digits (area code + telephone number) or 1+10-digit dialing (1+ area code + telephone number), depending on the dialing plan, for all local calls. After Oct. 24, 2021, seven-digit calls may not be completed.

**Language Line**

When you’re in an emergency and you need help, sometimes it’s hard to even dial the phone, let alone find the right words to say to a 911 dispatcher. So, imagine if English wasn’t your first language. In an emergency, you’d still need to make yourself understood so that you could get the right help in the right place.

Fortunately, the Minnesota 911 program provides a language interpretation service called the Language Line. Here’s how it works: When a limited-English speaker calls 911, the dispatcher will ask what language they need. The dispatcher then calls Language Line. If the dispatcher isn’t sure what language to request, the Language Line representative can help. The dispatcher then adds Language Line to a three-way call.

The dispatcher can then give the interpreter specific questions to relay to the caller, such as “What is your emergency?” “What is the address of your emergency?” or “Do you need an ambulance?” Later, they may give instructions to wait until police arrive or provide emergency medical instructions. Once the call is over, the dispatcher will say “end of call” to the interpreter before hanging up.

A look at the numbers shows that 911 translation services are much needed in Minnesota.

**2019 Language Line Data:**
- Total cost for Language Line for 2019: $85,557.98.
- Total number of calls transferred to Language Line in 2019: 10,819.
- Top four languages solicited in 2019 and percentages of each: Spanish (58.0%), Somali (21.1%), Karen (6.2%), Hmong (5.6%).

**2020 Language Line Data:**
- The total cost for Language Line for 2020: $97,823.22
- Total number of calls transferred to Language Line in 2020: 11,856.
- Top four languages solicited in 2020 and percentages of each: Spanish (62.4%), Somali (19.3%), Karen (5.1%), Hmong (4.2%).
**Land Mobile Radio**

ARMER is a robust, scalable land mobile radio (LMR) system serving as the primary voice communication tool for the majority of state, county and local public safety entities in Minnesota. ARMER is a Motorola Smart Zone trunked radio system operating in the 800 MHz radio spectrum. ARMER was first built in the Twin Cities in 2004, then in St. Cloud and Rochester, and has since spread throughout the rest of the state. The Minnesota Department of Transportation (MnDOT) owns the core infrastructure providing the ARMER backbone and 95 percent mobile coverage, as measured county by county.

**Status**

In late 2020, ECN completed the ARMER system buildout. There are now 335 state-maintained and 100 locally maintained tower sites on the air across the state.

Entities using ARMER file a participation plan with the SECB and, when approved, enter into an agreement to operate under MnDOT’s FCC license. Of Minnesota’s 87 counties, 86 have requested and received full participant status from the SECB. One county maintains its legacy VHF radio system and interoperates with its neighbors using ARMER under a limited participation plan.

The SECB has supported keeping the ARMER system upgraded to protect the large investment and avoid a potentially significant one-time upgrade cost in the future. In June 2020, the SECB voted to accept a proposal from Motorola Solutions for a five-year system upgrade agreement (SUA) for ARMER. It allows the Minnesota Department of Transportation (MnDOT) to enter into the contract with Motorola Solutions and to bill local ARMER infrastructure owners for their local proportional share of the SUA cost. The contract will be in effect from 2021 through 2025.

**Participation Map**

- Of Minnesota’s 87 counties, 86 of are full participants plus Cass County, North Dakota.
- There are 8,800 active talkgroups (channels) in Minnesota.
- There are 90,000 active radio IDs in Minnesota.
- There are more than 8 million radio transmissions per month.

**ARMER Radios at the Red Lake Nation**

When an emergency takes place in the Red Lake Nation, police officers have a new tool to use. The tribal nation received a federal grant in fall 2019 to improve its emergency communications, which allowed the police department to add 49 ARMER-capable radios to support personnel and operations. Up to that point, Red Lake Nation had access to ARMER, but it had not secured enough equipment to outfit its entire fleet. Minnesota’s Northwest Emergency Communications Board stepped in to provide funding to train radio users.

Using these land mobile radios will greatly enhance interoperable communications for the law enforcement officers who cover the vast area of the Red Lake Nation. The radios also allow them to seamlessly communicate with surrounding agencies. This project was a tremendous advancement of the region’s goal of interoperable public safety communications.
Construction Budget Status as of December 31, 2020

<table>
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<th>Project Funding</th>
<th>Original Budget</th>
<th>Spent to Date</th>
<th>Unspent Balance Remaining</th>
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<th>Available Balance</th>
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<td>$307,258.89</td>
<td>$232,000.13</td>
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Project Contingency as of December 31, 2020: $75,258.76

International Radio Test Between Minnesota and Ontario

Minnesota continues to lead the way in public safety communications after Koochiching County and Ontario conducted a first-ever cross-border test of the ARMER system in November 2019.

As part of the exercise, participants created a “patch” (or connection) between Minnesota’s system and Ontario’s Public Safety Network. Once the patch was stable, both U.S. and Canadian dispatch centers and first responder agencies tested the communication pathway. This was possible because of a newly-designed patch that allowed the connection between separate frequencies on the two radio networks.

Koochiching County Emergency Management Coordinator Willi Kostiuk says, “The ability to communicate with our resource partners in the Fort Frances, Ontario area when a disaster strikes is the key to a successful and unified response…and may ultimately save lives.”
The dedicated public safety wireless broadband network known as FirstNet continues to be developed nationwide. While that work continues, Minnesota agencies are coming together to determine how to best use the services it will provide. Minnesota’s FirstNet roadmap will guide coverage, services, user experiences and security on the network.

In 2019, Wireless Broadband Program Manager Melinda Miller and ECN Director Dana Wahlberg traveled to Arizona, where representatives from 39 other states engaged in roadmap discussions. While there, Minnesota was highlighted as one of four states that has started this important work, which will ultimately influence the roadmap for the entire nation.

Meanwhile, the next time you take a trip to Itasca State Park, you can take comfort in knowing that public safety officials in that area have a dedicated wireless broadband network to respond to emergency calls. That means first responders no longer have to compete with the public to exchange information and data.

In November 2019, FirstNet installed a cell tower in Zerkel, just east of the White Earth Reservation. Prior to the installation of this tower, broadband coverage in that area was scarce. The tower gives public safety first responders, such as law enforcement, fire and EMS, reliable and dedicated wireless broadband coverage.

This was the first of 23 tower sites that will be installed across the state by 2023 to expand coverage in underserved areas as identified by public safety stakeholders in response to the need for dedicated wireless broadband network for Minnesota’s first responders. Since then, six additional towers have been installed:

- Graceville (Johnson)
- Isabella
- Blackduck
- Finlayson
- Grygla (Thorhult)
- Williams

ECN has assisted AT&T in having FirstNet co-locate towers in Marine on St. Croix, the Red Lake Nation, Echo Trail and Crystal Bay Township in Lake County. Another option is to find suitable alternative locations to ensure AT&T is successful in meeting the 2023 deadline for these 23 new tower sites in Minnesota.
FirstNet Tower Sites Map

This map shows the general locations of towers in Minnesota. Those marked in blue are designated but not live. Those marked in green are designated and live. Towers are subject to additional analysis and change. This map was generated by ECN and not FirstNet (AT&T).
Demand on Wireless Broadband During COVID-19

Stay-at-home orders and social distancing guidelines in 2020 exponentially increased traffic volumes on broadband networks, which affected the work that public safety did during the pandemic and how they performed it. Essential frontline workers need wireless broadband to complete mission-critical business.

Fortunately, FirstNet has a space on its network dedicated specifically for use by our nation’s public safety responders to ensure they are not competing for the same network space the general public is using. Other wireless carriers provide public safety services and priority, but do not provide comparable services to FirstNet, which provides a dedicated core network and other features that set it apart from other wireless carriers. With the public safety dedicated network, first responders and emergency operations centers are able to communicate seamlessly on the front lines with priority and preemption of the network over the general public.

Verizon Response Teams (VRTs) help local, state and federal public safety agencies stay prepared and connected. A VRT was dispatched to northern Minnesota in 2020, where the team consulted with emergency managers about providing added wireless broadband coverage in the area. The goal was to increase communication capacity for alternate care facility locations, such as auxiliary hospitals. These facilities were identified to provide extra medical space as hospitals became overcrowded with COVID-19 patients.

Similarly, AT&T supported continuity of operations during the COVID-19 pandemic for cities such as St. Paul, where the mayor’s office, emergency operations center, and first responders depended on clear voice and data connectivity as subscribers to a special public safety network offered by FirstNet.
Stakeholder Engagement and Support

- Continued the Wireless Broadband User Forum in 2020. The user group was conducted in person in Walker, St. Cloud, and Mankato. The September User Forum was conducted virtually.

- Continued to meet with FirstNet and the FirstNet Authority on a bi-annual basis to discuss coverage buildout and continued progress updates on the network. The focus here is monitoring the buildout of the 23 towers that were promised to Minnesota during the opt-in process.

- Attended the FirstNet Roadmap Meeting where the FirstNet Authority updated its progress with the nationwide public safety network and the six domains of the core, coverage, situational awareness, voice communications, secure information exchange, and user experience. The FirstNet Authority also introduced the following unique features: FirstNet MegaRange for high-powered user equipment, Z-axis for FirstNet for vertical location, compact rapid deployables, and FirstNet push-to-talk.

- Conducted a survey in January 2020 with more than 400 agencies, 77 counties, and tribal participants responding. Coverage was the No. 1 issue; however the surveys identified other issues to be addressed, such as funding, situational awareness, and promoting interoperability.

What’s Next?

ECN will continue to play a role in developing best practice guides for wireless broadband throughout Minnesota and the nation. Existing guides address best practices for basic applications, push-to-talk and situational awareness. ECN also supported a workgroup in the Wireless Broadband and Applications committee of the SECB by:

- Reviewing the published Network Requirements.
- Listing Network Requirements to influence.
- Creating the Carrier Evaluation Checklist document.
The IPAWS program continues to flourish under the leadership of program manager John Dooley. Over the past two years, Dooley has worked with local alerting authorities to revise and develop new material for the second published version of the Alert, Notification and Warning Best Practices Guide. This guide directs local alerting authorities on the most appropriate processes and procedures when operating IPAWS.

ECN also worked to expand the area of each IPAWS-capable jurisdiction one county beyond its border within the state of Minnesota. This will allow for appropriate alerting when an emergency situation arises along a border or when it extends beyond a county’s jurisdiction.

ECN is looking forward to the future of this program. Over the past two years, staff participated in a work group assigned to revise and condense the State Emergency Alert System (EAS) plan. That plan is set to be released sometime in 2021.

**By the Numbers**
The following jurisdictions are approved IPAWS alerting authorities in Minnesota:
- 83 counties (four counties are not IPAWS-capable)
- DPS (Bureau of Criminal Apprehension and Minnesota Homeland Security and Emergency Management)
- City of Minneapolis
- Metropolitan Airport Communications Center

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**Wireless Emergency Alerts**

<table>
<thead>
<tr>
<th>Type of Alert</th>
<th>2019</th>
<th>2020</th>
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<tbody>
<tr>
<td>Weather Follow Up</td>
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<td></td>
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<tr>
<td>Shelter Locations</td>
<td></td>
<td></td>
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<tr>
<td>No Travel Advised</td>
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<td></td>
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<tr>
<td>Missing Person Other Than AMBER</td>
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<td></td>
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<tr>
<td>Gas Leak</td>
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<td></td>
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<tr>
<td>Evacuation</td>
<td></td>
<td></td>
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<tr>
<td>Dangerous Person</td>
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<tr>
<td>Curfew Orders</td>
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<td></td>
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<tr>
<td>COVID-19 Message</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bomb Threat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boil Water Order</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMBER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>911 Disruption to a County PSAP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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In 2019 and 2020, ECN monitored 49 IPAWS alerts issued by local jurisdictions. Some examples of wireless emergency alerts issued include: staying off the roads in a winter storm, evacuating residents during flooding, alerting a community to a curfew, or finding shelter from the cold during a power outage. ECN followed up with local jurisdictions on processes and provided suggestions in situations where improvement was warranted.
2020 Local Alerting Authorities Approved for IPAWS

- Approved Alerting Authority
  - Statewide/Special
  - BCA
  - HSEM
  - City of Minneapolis
  - Minneapolis/St. Paul Airport
- Joint or Multi-Jurisdictional COG
- Application in Progress/Installation Not Verified
- Not Applied for IPAWS
**Training, Exercising, Testing**

As many local alerting authorities can attest, using IPAWS for emergencies and incidents is not a perfect science. That is why ECN encourages regular training, exercising and testing of wireless emergency alerts (WEAs), the emergency alert system (EAS), and other tools in the program. Over the past two years, ECN assisted more than 20 counties with the following activities to promote continued education:

- Facilitated five public alerting authority workshops in 2019, with 69 attendees in the following counties: Freeborn, Douglas, Rice (2), and Winona.
- Presented two IPAWS sessions at the 10th Annual Public Safety Communications Conference.
- Spoke at the FCC Workshop on Multi-Lingual Alerting in Washington, D.C.
- Presented IPAWS for Incident Command System (ICS) for the Dakota County Emergency Services Committee and the Dakota County Fire Chiefs Association.
- Presented at the 2019 Association for Minnesota Public Educational Radio Stations (AMPERS) meeting.
- Tracked counties’ FEMA Proficiency Demonstrations with IPAWS and followed up with those who needed assistance on processes and improvements.
- Presented two IPAWS sessions at the 2020 Governor’s Homeland Security and Emergency Management Conference.
- Spoke and participated in the FEMA Webinar on Alerting in 2020.
- Participated in the Communications Security, Reliability and Interoperability Council VII (CSRIC VII) national workgroup to form guidance for locals in the areas of alert, warning and notification.
In August 2019, ECN coordinated with the Bureau of Criminal Apprehension (BCA) and Emergency Alert System (EAS) participants on the first-ever statewide Blue Alert test in Minnesota. The legislature established Blue Alert in 2015 as a tool to help locate suspects when a local, state or federal officer is killed or seriously wounded in the line of duty. There have been no Blue Alert activations since its inception.

During a real Blue Alert activation, anyone who sees a vehicle or person(s) matching the information provided in the alert is urged to dial 911 as soon as it is safe to do so. Members of the public should not approach or attempt to apprehend the subject of a Blue Alert. For a Blue Alert activation to occur, the following criteria must be met:

- A law enforcement officer must have been killed or seriously wounded by an offender(s) or is missing while in the line of duty under circumstances evidencing concern for the officer’s safety.

- The investigating agency must determine that the offender(s) poses a serious risk to the public or other officers and dissemination of available information to the public may help avert further harm or assist in apprehending the offender.

- A detailed description of the offender’s vehicle or other means of escape, including at least a partial license plate number, must be available to provide to the public. The lead investigating law enforcement agency must request that a Blue Alert be issued.

A Blue Alert may also be activated when there is a threat to cause death or serious injury to a law enforcement officer and:

- The requesting agency confirms that the threat is imminent and credible, and

- At the time of the receipt of the threat there is a probable cause pickup and arrest or an active warrant, and

- Any suspect involved has not been apprehended, and

- There is sufficient descriptive information about the suspect(s), including any relevant vehicle and license tag information.
After seven years of service, WEAs received an update. FEMA released enhancements to the system in December 2019, which allow for longer warning messages, multi-lingual capabilities, new alert classes, and better location accuracy of WEAs throughout Minnesota and the rest of the nation.

Before, when a public safety agency sent out a WEA, they had just 90 characters to tell you what was wrong and how you should protect yourself. That’s shorter than a tweet. With this update, the number of characters expanded to 360, which will certainly help in detailing the kinds of emergencies that are taking place — and how you can stay safe from them — where you are.

Another new benefit is the capability to add hyperlinks and phone numbers to alerts. Until recently, messages could not include these resources to point recipients to additional safety information. Given this new feature, it’s more important than ever that you review the messages. That’s why WEAs will remain on your device for at least 24 hours, or until you delete them — whichever comes first.

WEA 2.0 will also support Spanish-language alerts. This was not possible until now, and it will allow authorities to communicate more clearly with people whose primary language is Spanish.

WEA alerts are divided into classes depending on the type of emergency. For example, a WEA from the Imminent Threat class might notify you of a train derailment with a chemical release, whereas an AMBER Alert WEA is about abduction. WEA 2.0 adds new alert classes, including a Public Safety category. It will be used to recommend steps that the public should take to save lives and property during emergencies when that information doesn’t meet the criteria for the other classes. Examples of a Public Safety WEA include boil-water notices or no-travel advisories during a blizzard.

The goal of this upgrade is to give you the right information at the right time to make the right decisions in an emergency. So the next time you hear a loud tone on your phone, give the alert a thorough read, no matter how long it is. Click on the hyperlink or call the number provided for more information. Share the alert with your Spanish-speaking friends and, most importantly, follow the recommended safety steps.
INTEROPERABILITY

There is an increased need for Minnesota’s PSAPs and emergency responders to exchange information within and across their own disciplines. It’s called interoperability, and it can help emergency responders save lives.

To work successfully, interoperability must include more than just sharing technology. It requires a sophisticated governance structure, standard technical and operational procedures, training, and practice. Interoperability solutions must also be put into day-to-day use. Minnesota is actively taking a deeper look at interoperability across all four of ECN’s program disciplines.

Northern Lights Task Force

Planning a public safety response for Enbridge’s Line 3 Project has been underway for several years as permitting and route planning progressed. To ensure the life and safety of citizens, protect property and preserve the legal rights of those who may support or oppose the project, law enforcement across northern Minnesota formed the Northern Lights Task Force (NLTF) to collaborate and coordinate a unified response across the roughly 340-mile route.

Several committees were formed by the task force to make use of the subject matter expertise required to develop a comprehensive plan. In July 2020, the NLTF merged several technology-related committees and formed the Communications and Information Technology Committee, which asked for support from ECN and the Regional Interoperability Coordinators (RICs), to encourage wide engagement across all disciplines.

As the construction launch rapidly approached, the group worked to find subject-matter experts in information technology, PSAP operations, credentialing, communications unit (COMU), emergency management, and concerns for PSAPs not directly connected to ARMER.

ECN coordinated the committee’s work to assess wireless broadband coverage and capabilities along the entire route while exploring how integrating broadband into the response would benefit the overall operation. Discussions with the FirstNet Authority Planning Team determined potential gaps in coverage and capacity, and how to best leverage broadband equipment, tools and deployable resources. The group developed a scalable Land Mobile Radio plan that meets the needs of all stakeholders, coordinated interoperability through talkgroup authorizations and permissions, and coordinated radio programming updates in radios statewide to support the plan. ECN programmed and dispersed encrypted radio to meet the needs of the operation.

What makes the team strong is the collaboration and sharing of resources. In this spirit, Stearns County answered the call when the committee asked for support in the form of an MCC7500E console to be stationed at the state’s alternate emergency operations center to allow for the increased radio traffic expected throughout this response. ECN provided the financial support needed to upgrade this device to meet the encryption and capacity needs of the operation.
911

In 2019, twenty PSAPs engaged in a contract with a single 911 call handling vendor who will implement a shared call handling service on a statewide level. A software-as-a-service (SAAS) platform (also known as an internet, cloud-based program) has been tested in two diverse locations in Minnesota. Each PSAP sharing this call handling system will have two diverse and redundant circuits delivering 911 calls. Turn up began in 2020 and continues today.

ECN was awarded a grant through the National 911 Office, which is being sub-granted to regions for expanding Next Generation 911 migration. In addition to supporting the 911 geospatial information system (GIS) project and the shared call handling system project, the Southeast region has been awarded grant funding to evaluate the feasibility of a statewide Computer Aided Dispatch (CAD)-to-CAD interoperability project. Initial meetings have been held with potential vendors who can support such an initiative.

Meanwhile, ECN originally purchased RapidDeploy for six greater Minnesota regions in response to potential closures of PSAPs due to COVID-19. ECN wanted to ensure a PSAP could take the calls of a neighboring PSAP if it had to close. Although RapidDeploy was not used for COVID-19, Minnesota regions continue to explore opportunities to implement it as a CAD data-sharing resource.

ECN then supported the NLTF’s command and situational awareness needs by implementing a specific RapidDeploy solution. This platform allows a unified command to flourish by providing a live picture of events, assigned and available resources, and an opportunity to view events in a single operating picture. RapidDeploy includes automatic vehicle location (AVL) for team leaders and turn-by-turn directions for units and personnel who may be operating in a geographical location with which they are unfamiliar. RapidDeploy also sends an SMS message to selected leadership anytime an event is created across the entire Enbridge Line 3 construction line, providing exceptional situational awareness.

Text-to-911 dispatch center receives emergency messages and coordinates deployment of necessary response.
Land Mobile Radio

Over the past two years, ECN matured the COMU program through training, recognition and policy development. In 2019, 28 people were classroom-trained in three different COMU positions. This included a brand new COMU position focused on the information technology needs of an incident. Six people completed post-classroom training requirements and received state recognition in four different COMU positions. Policies were refreshed and approved by the SECB. The first COMU report was delivered to the Interoperability Committee.

ECN asked the Interoperability Committee of the SECB to empanel a workgroup to formally consider the anticipated demand for emerging technology allowing for inexpensive connectivity and interoperability of push-to-talk applications on cellular devices and ARMER talkgroups.

Wireless Broadband and Applications (WBB&A)

ECN has further developed the use of the federal database and tool called the Homeland Security Information Network (HSIN). The platform is used to allow Minnesota’s public safety stakeholders to share information concerning the use of applications and functionality of users on FirstNet or other public safety network spectrums over a private, secure website.

ECN continues the dialogue between the FirstNet Authority and the FirstNet/AT&T team in Minnesota. Verizon has participated in dialogue to continue toward nationwide interoperability on wireless networks as well.

Our WBB&A program monitored the FCC activities that affect the public safety communication spectrum, including the T-Band resolution and the 4.9 GHZ Report and Orders. Approximately 70 4.9 GHZ spectrum licenses are held in Minnesota, which needed to be prioritized in the process because they support backhaul for the ARMER network.

ECN staff also built relationships with neighboring states and vendors such as Bridge4PS, DEED’s Office of Broadband, and the Minnesota Rural Broadband Coalition, to name a few.

IPAWS

Alert and warning programs in Minnesota continue to flourish as ECN expanded the area of alerting counties along the Iowa border. Alerting now includes the Iowa counties that share a border with the state of Minnesota for when there arises a need to warn people in those areas.

ECN continued to follow federal legislation that impacts public alert, warning and notification and kept leadership informed on possible ramifications to the state, tribal and local jurisdictions.

Lastly, staff expanded outreach efforts to additional broadcast partners by attending the Minnesota Broadcasters Association (MBA) Annual Meeting. This event allowed ECN to promote statewide alert and warning, and to introduce the new BLUE Alert to broadcasting partners. It also provided ECN an opportunity to address the importance of testing the alert and warning systems located within broadcast centers.
Following a number of 911 service disruptions, ECN launched a public outreach campaign that reminded people of the different ways they can call for help.

If someone calls 911 while there’s a service disruption, they’ll either hear a fast busy signal, or the phone will keep ringing without an answer. If that happens, callers should try to text 911. It may be operational when traditional 911 isn’t.

If people can’t get through using Text-to-911, they should try calling 911 from either a land line or cell phone that uses a different carrier. If none of that works, people should use 10-digit, 24-hour number for their county’s dispatch center. In fact, that’s a good number to have at the ready anyway. People should save it in their cell phones today, so they don’t have to worry about tracking it down in an emergency. Remember: There will be a different 10-digit number for the PSAP assigned to home, your work and your cabin if they are in different counties.

2019 MN DPS-ECN Stakeholder Engagement and Support Activities
- Supported 85+ SECB Board, committee, and work-group meetings.
- Participated in 100+ regional governance meetings.
- Hosted three regional leadership meetings.
- Published 12 monthly newsletters.
- Hosted seven regional GIS workshops.
- Hosted the 2019 Public Safety Communications Conference:
  - 359 attendees
  - 48 sessions
  - 33 exhibitors
  - Two case studies
- Administered two grant programs — SECB and the State Homeland Security Program (SHSP) — that provided over $1.2 million in funding to support the advancement of emergency communications capabilities across all seven Emergency Communications/Emergency Services Board regions.
2020 MN DPS-ECN Stakeholder Engagement and Support Activities

- Supported 115+ SECB Board, committee, and workgroup meetings.
- Participated in 105+ regional governance meetings.
- Hosted five regional stakeholder engagement meeting sessions.
- Published nine newsletters detailing ECN projects, initiatives and other activities.
- Administered three grant programs (NG 911, SECB, and SHSP) that have provided nearly $5.8 million in funding to support the advancement of emergency communications capabilities across all seven Emergency Communications/Emergency Services Board regions.
- On three occasions, supplied ARMER system radio equipment from the DPS-ECN Strategic Technology Reserve (STR) to provide responders with emergency communications capabilities during special events and emergencies.
- Hosted a PSAP continuity of operations (COOP) tabletop exercise (~50 attendees).
- Hosted 11 wireless broadband program user forums (~50 attendees).
- Facilitated the transfer of ~400 surplus ARMER radios to public safety agencies in greater Minnesota.

Regional Interoperability Coordinators

ECN and our stakeholders continue to benefit from the leadership and engagement of our two capable Regional Interoperability Coordinators (RICs). Marcus Bruning supports the Northeast, Northwest, and Metro regions. Steve Tait supports the Southeast, South Central, Southwest, and Central regions. As RICs, Marcus and Steve are actively engaged to support initiatives within their respective regions. This includes providing education and outreach opportunities to all stakeholders in support of ECN and the SECB Strategic Plan. Their role as facilitators was invaluable during COVID-19 planning, civil unrest event response, and in planning for the Northern Lights Task Force (NLTIF) public safety response for Enbridge’s Line 3 Project.