

# MONTHLY UPDATE



## DIRECT FROM DANA



We are pleased to announce that Tusa Consulting Services out of Louisiana will conduct a comprehensive, independent review of the current and proposed Motorola Solutions software agreement for maintenance and support, which includes any potential upgrades. This report will be used by Minnesota Emergency Communication Networks (ECN) and local and municipal government subsystem owners to determine the best and most cost effective method of obtaining Allied Radio Matrix Emergency Response (ARMER) maintenance and support services. The current contract with Motorola Solutions expires December 2020.

Televate has been awarded the contract to analyze the potential feasibility of interfacing long term evolution (LTE) wireless broadband technology to the ARMER land mobile radio system for ECN and our stakeholders. Televate will also provide guidance as we continue our roadmap for wireless broadband deployment in Minnesota.

We are fortunate to have both of these capable and well respected consultants on board to lend expertise and support in advancing our initiatives.

### ECN Hosts Two Urban Scholars for the Summer:

ECN staff has had the pleasure of hosting two bright and energetic young adults who are part of the Urban Scholars program! Urban Scholars is a leadership and professional development internship program providing college students from diverse racial and ethnic backgrounds an opportunity to gain distinctive professional experience. Scholars spend four days a week working on meaningful projects and assignments alongside organizational leaders at various host sites throughout the Twin Cities. One day a week, scholars come together as a cohort to learn and practice skills in leadership, professional development, small groups and public speaking. The program is focused on leadership skills and creating resume-building career pathways through formal leadership and professional development training to create the next generation of leaders.

Brandon Benjamin and Lindsey Broda have been an asset to the ECN team and have certainly stepped up to the plate to accept a variety of learning opportunities and responsibilities while on staff. The ECN team has been as eager to challenge and support these bright students and they have been eager to learn. Read more about our two scholars:



**Brandon Benjamin:** My name is Brandon Benjamin and I'm currently a student at the University of North Dakota where I will be graduating in December with a degree in Airport Management. I chose to study airport management because of my passion in aviation which has always been a part of my life. Starting with my dad who served in the U.S. Air Force to living right by the airport in my hometown of Lake Elmo. My end goal is to work at the Metropolitan Airport Commission, specifically at the Minneapolis-St. Paul International Airport as a manager in airport operations.

July 2019

Stay connected  
with the  
Emergency  
Communication  
Networks Division  
and the  
Statewide  
Emergency  
Communications  
Board

Visit our [website](#) to sign  
up or manage  
communications you  
receive.

## Cont. from Director Notes

When I was applying to the Urban Scholars program I honestly don't remember the three job site preferences I wrote down, let alone what ECN even was when I was informed of my job placement. However after the first few weeks of working here I found that I really enjoy the kindness and helpfulness of the people at ECN. As well as the projects that I'm able to work on which range from rewriting and updating the Integrated Public Alert and Warning System (IPAWS) Best Practices Guide to working with Minnesota State Troopers on airborne ARMER coverage over the Boundary Waters.

I'm very grateful to have been placed at ECN because I couldn't see myself working anywhere else where I would receive meaningful projects and work with a great group of people to help develop my professional career. Overall I'm enjoying my time in ECN and can't wait for the next project to work on before I go back to school in the fall.



**Lindsey Broda:** My name is Lindsey Broda and I will be a senior this upcoming fall at Concordia College in Moorhead, MN. I am studying sociology and am hoping to work in law or human services.

When we interviewed with Urban Scholars, we were given a list of agencies that we could possibly be

placed with and were asked to give our top 3. I don't remember what my top 3 were but the ECN was definitely not on my radar. Once I received my position I was nervous about the job, but after meeting with Dan and the rest of the staff for the first time I was very excited to start the many projects they had. In the short few weeks I've been here I've helped with rewriting the IPAWS Best Practices Guide, updated the Public Safety Answering Point (PSAP) Master List, attended various meetings and conferences, done some survey research, and many more little projects.

I am very grateful to have been placed in this agency with these people who are so kind and eager to help Brandon and me gain valuable, hands-on experience.

## Reaching Diverse Audiences:



IPAWS Program Manager, John Dooley, took his traveling road show to a whole new level. He testified before the LIVE Federal Communications Commission (FCC) Multilingual Workshop in Washington, D.C. on June 28. Minnesota's model was referenced multiple times during this workshop, featuring the partnership work John has done to provide public safety outreach and education to our partners, broadcasters and the general public.

John has been engaged in working with our partners in Minnesota ([including Twin Cities Public Television's TPT Now Channel 2.5](#)) to implement multi lingual alerting. We are both proud and honored that he was invited to be part of this FCC workshop. Watch John's testimony here:



## Farewell:



After 44.5 years of working as a dedicated public servant, Carol Schmidt has left us for the happy world of retirement. No one on the ECN team "knows" our division without Carol being here. She did our payroll, arranged travel, kept income and expenses straight, ensured we had the supplies we needed,

and never missed routing cards for signature for birthdays or other occasions. We are thrilled she is able to begin this next chapter of life, but she will be deeply missed as a long time and valued member of our team. The hiring process begins!

## Cont. from Director Notes

### New Real Estate:



Progress is being made on ECN's new office space on the 17th floor of the Town Square Tower. While there is still much work to be done, things are moving along and ECN staff is busy cleaning in our current space preparing for the big move.

A falcon provides supervision to the construction workers as work is being completed in the new space.



### Census 2020:

As the 2020 census is coming, there is goal to make sure every citizen in Minnesota is counted, as that means federal dollars to our state and the people we serve. In addition, and as defined in Minnesota State Statute 403, the monthly appropriation that each county receives from ECN for eligible E9-1-1 and Next Generation 9-1-1 (NG9-1-1) advancement from the 9-1-1 Special Revenue Fund, is based, in part, on the population within that county. The population metric used to calculate the dollar

amount each county is appropriated for the subsequent ten years is provided by Census.

A key component of counting every person starts with having a valid address. With that in mind the Census Bureau has asked the governments in Minnesota to assist by sharing address point location data so together we can do the best possible job of counting every person in Minnesota. We recognize the important role you as a local government have played in both creating and maintaining address point locations and appreciate that you have shared that data in support of the NG9-1-1 data preparations that are taking place in Minnesota.

Given your partnership the state has been able to collect most address locations in the state. Census has reached out to the state with a request to participate in the Census 2020 program which includes reviewing, comparing and sharing address point data. Census Bureau would like to use the available address point data for the 2020 Census. While we believe you support sharing the data to assist making sure every Minnesotan is counted we wanted to make sure you were aware of this request and wanted to understand any strong disagreement you may have with the sharing of the data for this important Census work. There would not be any private information (names or phone numbers) shared with Census, only address point data which consists of a house number, street name, directional (s), and apartment, room or suite number.

Census is aware that our address point data is still a work in progress and will be provided with a copy of the interactive status map indicating the percentage of progress to date county by county. While this data is not being used for mission critical purposes, it is another resource to assist Census in reaching their goal of counting every Minnesotan.

ECN has requested our partner counties to submit their address point dataset no later than July 26.

## 9-1-1 NEWS

### 9-1-1 Outages/Service Disruptions

On June 15, a 9-1-1 **outage** occurred which affected the ability for citizens in several southwestern Minnesota counties to *call* 9-1-1 between 2:40 and 9:13 P.M. Text-to-9-1-1 was not impacted.

This outage was the result of a power supply failure at the Independent Emergency Services (IES) Ruthton selective router (*IES manages seven of 12 selective routers located throughout Minnesota. These devices aggregate 9-1-1 calls and send them*

on for call routing. These selective routers are at end-of-service and need to be replaced).

During the isolation and initial repair process, multiple phantom calls occurred at several public safety answering points (PSAPs). Phantom calls occur when the equipment and/or circuit alternates between working and not working. During this degraded service level, PSAPs receive false signals on their call answering equipment that are presented as 9-1-1 calls, when no call is actually present.

This disruption eventually resulted in a complete outage for wireline, wireless, and Voice over Internet Protocol (VoIP) carriers connected to the Ruthton selective router, preventing the delivery of 9-1-1 calls. In total, there were 34 missed 9-1-1 calls from 14 callers in the following counties:

- Brown
- Cottonwood
- Jackson
- Lac qui Parle
- Lincoln
- Lyon
- Nobles
- Pipestone
- Redwood
- Rock

The repair involved IES hand delivering and installing multiple new power supplies. During the course of this network interruption, all involved carriers were communicative with ECN via multiple methods and the communication was relatively effective. IES has since provided new power supplies to all seven selective router locations they manage and will be installing them as quickly as possible. It is important to note that Text-to-9-1-1 calls were still able to get to the PSAPs as they do not route through the selective routers. *Call if you can, text if you can't!*

## GIS

ECN and Minnesota Geospatial Information Office (MnGeo) staff have met with the northeast, southwest, south central, central and southeast regions to discuss the NG9-1-1 Project. We are planning on meeting with the Northwest region on July 24. This meeting will be for Geographic Information

Systems (GIS) and PSAP staff. A metro region meeting still has yet to be scheduled.

The edge matching of boundaries and road center lines, by use of the Touch Point Reviewer web map, continues to progress. This is a critical step in the development of seamless statewide data layers which will be used in the Emergency Call Routing Function (ECRF) and Location Validation Function (LVF). The NG9-1-1 combined polygon standard (PSAP, provisioning/maintenance and emergency services zone (ESZ)) is under development. There are counties which are behind in providing the required data at each of the prior phases: community name, street name and address validation.

This project is more of a marathon than a sprint, so it's important we stay on task. Please engage your PSAP and GIS managers to ensure they are submitting the required data on time. You can find the status map for every county on ECN's website under "911 Program" and "GIS Information" along with the most recent version of the GIS newsletter. The successful completion of this first phase (data collection and remediation) is critical for NG9-1-1 implementation.

[Norm Anderson](#) (651-201-2483 or 651-201-7559) is the GIS Project Manager for ECN and MnGeo. [Akiko Nakamura](#) (651-201-7558) from our office is also working on the project. Feel free to reach out to either one of them with questions related to the GIS project.

## Text-to-9-1-1

St. Louis Park in the metro region successfully deployed Text-to-9-1-1 on June 17. There are currently no scheduled deployments for July, but several PSAPs are looking to implement it in the near future. Texts continue to account for less than one percent of all 9-1-1 calls.

## COOP Plans

The PSAP Continuity of Operations (COOP) effort started in October 2017 to ensure a minimum, but consistent, continuity plan for all PSAPs. Although most PSAPs have already submitted a plan, the amount of work put in by the PSAPs and ECN staff is considerable and deserves recognition. We do not want these efforts wasted in the coming years, so ECN will make COOP exercising, training, and evaluation a focal point each September in

conjunction with National Preparedness Month. Look for information in the coming months regarding training and COOP review opportunities.

If your county has requested an extension for submitting a COOP, please try to complete it as soon as possible and submit the plan to [Cathy Anderson](#) (651-201-7548).

### Firewall/Cybersecurity Project

Carlton, Dakota, and Goodhue County PSAPs are now “online” and being actively monitored. There is a known issue with the delivery of Text-to-9-1-1 messages, specifically to Carver County, which we are currently working with the vendors to mitigate. Element continues to engage PSAPs on surveys and implementation dates to keep the project moving ahead.

### Ingress Network

The ability to reach 9-1-1 is critical, no matter what method, or device we use. Technological advancements have significantly changed communication network options. The State of Minnesota continues to be a leader in 9-1-1 technology and standards by investigating and pursuing updated network designs.

Very soon we will be issuing a request for proposal (RFP) to begin phase one of the NG 9-1-1 physical network design. This design will change originating service provider technology by moving traffic from analog to digital facilities across Minnesota. Overall, this change will make the incoming network more reliable, more agile and efficient. If you have concerns or questions, please feel free to contact [Leslie Sticht](#) (651-201-7550).

## ARMER

### Inter-Zone Patching

In March 2019, it came to our attention that, in certain circumstances, when two talkgroups are patched, end users had the potential to talk over each other rather than to get a busy tone. As a new observation coincidental to the ARMER update from version 7.15 to 7.17, it was suspected that this was a new behavior. We have since raised the issue with ARMER’s manufacturer, Motorola, who reported that patching was working as designed. The Land Mobile Radio Committee was been

briefed on this situation and has asked ARMER system administrators to weigh in.

The System Managers Group (SMG) and the Metro Owners Group (MOG) have jointly studied this situation and are prepared to discuss their findings and next steps at the July Land Mobile Radio Committee meeting.

### ARMER Encryption

Minnesota uses an algorithm known as “DES-OFB” (Data Encryption Standard-Output Feedback) to secure the state’s encrypted talkgroups. While it will prevent the average scanner owner from monitoring a DES-OFB-encrypted talkgroup, this encryption standard was invented in the 1970s and is no longer considered secure. Since 2002, the federal government has identified “AES” (Advanced Encryption Standard) as its minimum encryption standard and the [US Department of Homeland Security’s Project 25 Compliance Assessment Program \(P25 CAP\)](#) guides that federal grant dollars may only be spent on AES.

Switching from DES-OFB to AES is not an easy transition. Until AES is available in all encryption-capable ARMER radios, it is not viable for use in regional or state talkgroups. To help move public safety forward, several radio manufacturers are now including AES encryption in new radio purchases at the same price as DES-OFB. As you purchase new encryption-capable radios, please discuss this with sales personnel to ensure that you include AES functionality. If you have any questions about this, please contact [Jim Stromberg](#) (651-201-7557) or your [Regional Interoperability Coordinator](#).

## Wireless Broadband - FirstNet

The first workgroup meeting for both applications and standards took place on June 26. We set parameters and worked through 10 requirements in our first 90 minute meeting. There is still time to join the workgroups every other Wednesday at 10 A.M. through Webex.

Our first initiative is to review the Minnesota Launch Requirements which were presented to the First Responder Network Authority (FRNA) in September 2015.

The Application Workgroup will also focus on application requirements, the statewide role in applications, what applications are available, and if the applications encourage interoperability. The Standards Workgroup will focus on promoting interoperability through new and existing standards, implementing additional information in participation plans, points of contact, uplift process, and the Homeland Security Information Network (HSIN) use. The workgroups will be establishing a connection between Minnesota's requirements and the FirstNet Roadmap Domains that were mentioned at the Roadmap Conference in Phoenix.

**Highlights from Phoenix FirstNet Authority Roadmap Conference:** Dana Wahlberg, Melinda Miller, Steve Tait and Steve Olson attended the Roadmap Conference in Phoenix last month. The Authority is rolling out a roadmap for reinvestment in the network. They have socialized the idea of six domains highlighted in the following graphic, five of which constituents can influence.



The Authority estimates that there will be \$18 billion for reinvestment over the life of the contract.

**Highlights from Boulder Colorado Lab Visits:** Brandon Larson, Peter Angelos, Melinda Miller, Leslie Sticht and Jill Bondhus traveled to Colorado last month to visit with the FirstNet Authority Lab and the Public Safety Communications Research Program (PSCR) Lab. The FirstNet User Experience team is just getting established in Boulder for constituents to experience the network in a lab environment. Our contingent met with Kim Madsen-Coleman who is the FirstNet Authority User Experience Team Lead. FirstNet Authority Regional Public Safety Advisor, Tim Pierce, and FirstNet AT&T Sales Consultant, Shane Olsen, were our hosts. The most notable comment from the group was that attending this session allowed them to gain the big picture of what the FirstNet network was all about.

The FirstNet Authority Lab demonstrated priority on the network as well as quality of service using generally available tools like fast.com which was developed by Netflix. The lab has much more space for experience testing. They have a copper paneled Faraday cage, and two sound proof units for testing vocoders.

AT&T FirstNet and Minnesota constituents also discussed the roadmap and possible use cases for applications. FirstNet has been working diligently on improving the local control site to aid in awareness of users and network outages. The user experience team asked a lot of questions about how Minnesota users take advantage of wireless broadband today.

The tour of the Department of Commerce and PSCR Lab was a highlight for attendees, where they learned about the work Derrick Orr (PSCR Division Chief) and his team are doing on several topics. His team demonstrated the use of augmented reality, virtual reality, drones and light detection and ranging (LIDAR) to name a few. A couple of attendees were able to suit up with LIDAR testing equipment to map the building for testing z-axis initiatives.



As announced in our previous newsletter, we have received an update from National Telecommunications and Information Administration that the State



and Local Implementation Grant Program (SLIGP) 2.0 funding will be extended to March 30, 2021. Minnesota will not receive any more money, but we will have more time to make decisions on the funds we do have.

## Upcoming Events

### Next Wireless Broadband & Applications (WBBA)

**Committee Meeting:** July 16

### Applications and Standards Bi-Weekly Workgroup Calls:

July 24 and August 7

### Association of Public-Safety Communications Officials

**(APCO):** August 11-14 in Baltimore, Maryland.

Although this is **not** regional invitational travel, I know several constituents from Minnesota attend this event. There will be 19 sessions about FirstNet at the meeting. FirstNet Authority Chair, Edward D. Horwitz will be speaking at the Distinguished Achievers Breakfast on Tuesday, August 13. AT&T's FirstNet be sponsoring activities and other vendors widely used by public safety (like Verizon, Comcast, Harris, Motorola, and CentralSquare) are also sponsors. [Click here](#) for more information.

## IPAWS

**Wireless Emergency Alerts (WEA 2.0) Update:** In a June webinar, the Federal Emergency Management Agency-Integrated Public Alert and Warning System (FEMA-IPAWS) Program **did not** commit to a launch date for WEA 2.0 deployment. What does this mean for the 74 jurisdictions that are IPAWS enabled?

- You will continue sending WEA messages with the 90 character limit just as you have in the past.
- Spanish language support will be also delayed.

Effective July 1, IPAWS Collaborative Operating Group (COG) Memorandum of Agreements (MOAs) no longer will need to be reviewed and signed by the FEMA Chief Information Officer (CIO). This change should speed up the process and will be accompanied with an update to the MOA which now includes references to a required monthly "proficiency demonstration" by every IPAWS COG. More to come on what this "proficiency demonstration" will consist of.

Beginning in fiscal year 2020, FEMA will track COG proficiency demonstrations to remind COGs of misses. Additionally FEMA plans to report two consecutive

misses to the respective state IPAWS reviewing authority (For Minnesota; [John Dooley](#) (651-201-7099) at ECN). More to come as we get a clearer picture of what this means for you.

Please let us know if any of the points of contact on your MOA have changed recently so that we can keep the FEMA database up to date. Contact [John Dooley](#) (651-201-7099) with your changes.

MOAs and digital certificates are good for three years. A COG can still be in an active status while FEMA is in the process of updating their MOA, but:

- The "live environment" digital certificate absolutely stops working on its expiration date.
- The "test environment" digital certificate does not, it can still function as the test environment expiration date is not checked.

As many COGs were initially approved in 2016 and 2017 FEMA will be replacing expiring digital certificates to maintain your COGs operational status. The IPAWS MOAs officially has a three year lifespan and with the revised MOA and streamlined approval process FEMA will more actively pursue MOA renewals.

### IPAWS Training

Two four-hour workshops were held in Rice County on June 25. In all, 37 people from Rice, Steele, Goodhue, and Le Sueur counties participated. Thank you to all that attended.

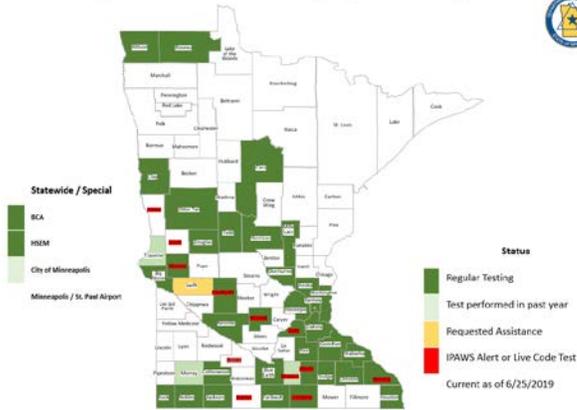
If you would like to have a training session conducted in your jurisdiction we would be glad to facilitate one for you, contact [John Dooley](#) (651-201-7099) to arrange one.

### Testing

If you are not testing now, how do you know that you will be able to send a message when the need arises? Testing your system is important as it keeps you, the "alerting authority," in practice on how to use your software. It also builds confidence that you are able to put out an alert when needed to inform the public that you serve.

Congratulations to Morrison County for starting their testing program this month.

## Alerting Authorities Performing Regular Testing with IPAWS



## Interoperability

### State Conventional Interoperability Plan

The workgroup that was formed to study the state's conventional interoperability plan has met four times and has drafted a *Minnesota Land Mobile Radio Conventional Interoperability Plan* to replace the 2012 version. Members are taking the first two weeks of July to review the document before they share it with each ECB/Emergency Services Board region for their input. Upon receiving regional support, the workgroup will then forward their proposal to the Interoperability Committee.

### CASM

CASM (Communications Assets Survey and Mapping) is an online database hosted by the Department of Homeland Security providing a repository for all communications resources. The database tracks everything from statewide radio systems, to individual talkgroups/channels, to radio counts and locations, to Communications Unit personnel. Minnesota has embraced CASM and each region has identified lead and assistant administrators. Regional and state CASM administrators will gather on July 23 at 9 A.M. for their biannual in-person meeting at the St. Cloud Police Department.

If you have questions about CASM or would like to know who serves as your regional administrator, contact Statewide Interoperability Coordinator [Jim Stromberg](#) (651-201-7557).

## Grants

### SHSP Grant

The grant is active and all regional contracts have been signed and awarded. The purpose of this grant is to fund training and exercises meant to support interoperable communications throughout the State of Minnesota. The terms of this grant runs from January to December 2019.

### SECB Grant

Payment requests continue to come in for this state grant. The main priority of this grant is to support GIS data collection for certain counties as well as interoperable communication equipment and training. This grant will run until December 2019.

### NG9-1-1 Grant

This grant has been accepted by the National 9-1-1 Office, and ECN is waiting on approval or additional questions. The main project funded by this grant will be the GIS project as well as other projects that will benefit NG9-1-1.

## AHA/CPR Legislation Status

Governor Walz signed the public safety omnibus bill on May 30. Included in that legislation for ECN is the requirement for PSAPs to respond to 9-1-1 calls reporting full cardiac arrest by: A) providing telephone CPR (T-CPR) instruction or B) transferring the caller to a PSAP capable of providing T-CPR instruction. The newly revised 403 statute containing the final T-CPR language can be found [here](#). All Minnesota primary PSAPs will have until July 1, 2021, to become compliant.

The bill included a moderate, ongoing appropriation, which will come from the 9-1-1 Special Revenue Fund. This appropriation will assist with training and quality-assurance requirements.

ECN will be coordinating efforts of secondary and primary PSAPs for compliance with the bill, in addition to

researching optimal methods for obtaining the necessary training.

**At this time, we strongly advise that regions and PSAPs hold off on any training and/or expenditures related to T-CPR until ECN vets available training and incorporates the legislative appropriation into our grants process. If you have any questions, please reach out to [Cathy Anderson](#) (651-201-7548).**

## Upcoming Events

The next regional leadership meeting will be held on Monday, July 22 at 10 A.M. at the Minnesota Department of Transportation (MnDOT) in St. Cloud. The area of focus for this meeting will be grant management and how to make the planning process more strategic. Grant administrators and regional leadership will address roadblocks to successful grant management and how to overcome them. Join us as we discuss encouraging local participation in the grant application process.