ALMR INSIDER

Volume 15, Issue 4 October 15, 2021

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Inside this issue:

Welcome Our New Operations Manager - Mr. Dan Nelson

I have the privilege of joining the ALMR system as the new Operations Manager beginning this October, as Mr. Chris Letterman leaves to pursue another opportunity. Chris has done a tremendous amount of work as the Operations Manager, and Mr. Del Smith for many years before that. My thanks to both for their hard work advancing the system and the partnerships that are vital to successful operations.

I have had the pleasure of meeting many users throughout the years as I have worked on the Kenai Peninsula. My professional background in public safety started in 2006 when I was a public safety dispatcher, which was my first exposure to ALMR.

Since then, I have been a volunteer first responder, worked in land use planning and regulatory roles, and as a program and emergency manager for the Kenai Peninsula Borough. In that role, I was exposed to many of the technical aspects of ALMR and other communications technologies, project management, and communications planning for large and complex incidents or disasters. Additionally, I hold degrees in Information Technology and Emergency Services Management.

There are many exciting aspects to the ALMR system as upgrades are proceeding and Alaska Public Safety Communication Services is continuing to build out and maintain a resilient and robust backbone for ALMR. Even as ALMR continues to improve, communications continue to be an identified area for improvement at incidents nationwide. I am passionate about comprehensive communications planning and enabling our first responders and partners to communicate effectively.

My role is the daily operations of the system, maintaining the partnership and governance structure in ALMR, coordinating with the system Management Office, and working with all of the member agencies on the system. I look forward to talking with everyone in the coming months and encourage all users to attend the monthly User Council meetings, and to follow our Twitter account at @ALMR_SOA.

Please don't hesitate to contact me at dan.nelson@wostmann.com or (907) 777-1009.

GTR Site Radio Installation Status Update

The installation of GTR8000 site radios at State of Alaska (SOA) sites has ended for this year. With the weather turning and the reduced daylight hours, it is no longer possible to safely complete the eight- to ten-hour task. This leaves five sites remaining in the southeast and one in Anchorage. Those will likely be addressed in Spring 2022.

The ALMR System Management Office (SMO) and Motorola Solutions technicians were able install 47 site in 2021 bringing the total of State of Alaska sites upgraded to 69 at this time. Five SOA sites and all Department of Defense sites had GTRs prior to the beginning of the upgrade. Along with the installation of the GTRs, the teams also installed new transmit/receive antennas at 46 SOA sites.

In addition to completing the remaining site upgrades in 2022, the system will need to be optimized to allow for the full use of time division multiple access (TDMA). This is important to note as it will start the countdown to have all non-TDMA radios off the system so the TDMA feature can be fully utilized. As a reminder, TDMA effectively doubles a site's voice channel capacity. This will allow more agencies to use the site at the same time without experiencing busies.

(Article by Ms. Sherry Shafer, Operation Management Office)

New National Fire Protection Association (NFPA) Standards

This is a follow up to the NFPA article in the July Insider and provides details regarding the new standards.

In January, NFPA 1802 was released which imposed new standards for portable radios used by firefighters. This standard, brought about by the line-of-duty deaths of two firefighters, is intended to apply standards to portable radios just as they are applied to other tools that firefighters depend on.

Testing labs and product development is still in progress, and there are not yet any radios on the market that have been officially approved to meet these standards as of this writing. Fire departments purchasing radios in the near future may wish to talk with their vendors about these standards and their specific products, offerings, and any timelines they may have for availability.

The new testing requirements for radios include heat immersion, ten-foot drop, direct flame to simulate flashover, tumble, and oven.

Summary of NFPA 1802 radio requirements:

Hardware

- Multi-color LED
- Antenna connectivity loss detection
- Remote speaker mic connectivity loss
- Thermal monitoring for radio health/over temp
- High temperature functionality
- Heat/Immersion Leakage Resistance

Software

- Default power up in hazard zone mode
- Minimum volume
- 50 percent battery capacity notification
- Data logging
- Period Self Checks
- Power off and out-of-range voice announcement
- Low battery icon and level

(Article excerpts taken from presentation at IWCE, September 2021, " A New Standard for Firefighter Radios: What Does it Mean for Your Department?" Speakers: Ken Rehbehn, CritComm Insights; Don Griffis, L3 Harris Technologies; Joe Namm, Motorola Solutions; Joe Velo, San Francisco Fire Department; Bob Athanas, Chairman, NFPA Electronic Safety Equipment Committee)

FCC Proposal Would Vacate 4.9 GHz Leasing Rules

The FCC released an order on reconsideration and a proposed further notice of proposed rulemaking (NPRM) for the 4.9 GHz band that, if approved, would drastically change the path it set for the band last year

Last October, the FCC approved an order that allowed states to lease spectrum in the band to non-public-safety entities. The band was previously reserved for public-safety use, but the FCC had spent several years looking to address what it termed as under use of the band.

The public-safety community came out against the proposal and several organizations filed petitions for reconsideration. The rules creating the framework had gone into effect, but the FCC put a stay on its implementation while those petitions were considered.

If approved, the order of reconsideration would grant the petitions of reconsiderations and vacate the leasing rules adopted in October. The order would also partially lift the freeze that the FCC put into effect prior to the adoption of the framework. That lifting of the freeze would allow existing licensees to modify their 4.9 GHz band licenses or apply for new fixed-site licenses.

Meanwhile, the further NPRM would adopt a framework that emphasizes public-safety needs. The NPRM would seek comment on mechanisms that would ensure public-safety use of the band, including protecting public-safety licenses from interference, collecting granular license data to improve the FCC's licensing database, adopting standards to promote interoperability, and requiring priority and pre-emption for public safety in any spectrum sharing framework for the band.

Additionally, the order would explore ways to increase public-safety use of the band, such as requiring some form of formal frequency coordination, designating a nationwide band manager or regional planning committee to manage public-safety use, and promoting innovation and the use of new technologies in the band.

Finally, the order would seek comment on alternative ways to facilitate non-public-safety access to the 4.9 GHz band that is compatible with public safety, including allowing public-safety licensees to lease excess capacity on their facilities to non-public-safety users, implementing a shared access model to facilitate coexistence between public-safety and non-public-safety users, establishing overlay or other licensing options for non-public-safety operations, and exploring technical flexibility and auction-based alternatives that would be consistent with the proposed nationwide framework.

The FCC will consider the order of reconsideration and the NPRM at its September 30 meeting. Find the full text of the proposal at https://www.fcc.gov/document/reassessing-49-ghz-band-public-safety.
(Article from Mission Critical Communications Weekly News e-newsletter, September 22, 2021)

Obtaining Grant Funding for Your Radio Communications Project

Securing the funding required to purchase, upgrade, and maintain public-safety equipment can be daunting. The landscape of public grant dollars is vast; it includes funding opportunities from more than two dozen federal grantmaking agencies and hundreds of state funding sources, each of which has its own criteria, application process, and deadline.

The federal government issues more than $500 billion in grant awards each year through its 26 grant-making agencies. Federal grant programs often support projects that act as testbeds for innovative solutions or strategies. Given these programs are open to applicants from across the U.S., they tend to be some of the most competitive funding opportunities available. That said, federally funded grant programs usually have the largest funding pools and can make the biggest awards.

State governments distribute additional funding, using local tax proceeds or dollars "passed-through" from a federal agency. In general, grants from state agencies offer a much lower application burden than federal funders. Programs are designed to support local priorities and demand fewer action steps from applicants. State awards tend to be smaller than federal grants and may require a local funding match from the applicant.

Private giving provides an additional $50 billion each year in funding. This support is great for those small projects that fall outside the parameters of large publicly sourced grant funds. Public-safety agencies often pair private funding with an existing state or federal grant or use private grant funding to satisfy another grant's requirement for a local match.

Considering the multitude of funding pathways available for your needs, it is important to qualify which types of grants are best for your organization to pursue.

When writing communications into a grant proposal, it is important to note that very few grant opportunities fund technology for its own sake. Instead, funders offer programs focused on a topic of interest, such as improving the response to sexual violence incidents, reducing drug trafficking across county lines, or improving security on school campuses, and leave it up to the applicant to determine how they will accomplish this mission. The equipment needed is the smaller means to a larger end:

To select the best grant for your project, start by jotting down two or three programs that catch your attention. As you review these opportunities, consider the following:

- Project scale. What is the intended scope of this program? Can we satisfy all required project components? Will a grant award lock our agency into too many extra activities?
- Collaboration requirements. Are partnerships required for this project? Can we leverage any existing relationships? Do we have enough lead time to form new ones?
- Total funding available. Will the award size be enough to fulfill our evidence management project goals, or will we need to find additional funding sources ?
- Local match. How much will my agency have to contribute towards the total project cost?
- Application burden. How many pages are required? Do we have enough time to fully develop and articulate this project?

Through this process, one or two programs will likely begin to shine as ideal funding sources. Grant seeking is a journey, but once you've got the hang of it, you'll find that grants can provide a regular source of funding for new projects in your agency.

(Article excerpts from Mission Critical Communications Weekly News, By Shannon Day, "Obtaining Grant Funding for Your Radio Communications Project," August 10, 2021)

IWCE 2021 Recap

Representatives from the ALMR System Management Office (SMO) and Operations Management Office (OMO) attended the International Wireless Communications Expo (IWCE) recently. The show was four days of highly valuable presentations, panel discussions, and interaction with various vendors.

ALMR is a P25 system, which means that it meets a suite of standards known as Project 25 that were first established in 1989 and have continued to evolve. There are currently well over 2,800 systems worldwide that meet this standard. While P25 is only the radio standard, there was much discussion about how new products are able to work with these systems. Some members are already utilizing devices connected to FirstNet and other data networks to access public safety data, to listen to audio from ALMR on mobile phones, and many other applications. There are gateways that can bridge systems together and perform other functions to enhance interoperability and blend the radio platform with other technologies. A large amount of discussion took place around P25 systems like ALMR going beyond simple push-to-talk capabilities.

As FirstNet, Verizon Frontline, and other LTE products and services continue to grow, it was a theme that was constantly reinforced that these all are compliments to land mobile radio and not replacements. The infrastructure built around public safety radio systems and the standards used are not the same as those used in commercial cellular services. Operationally, some of the systems that are currently in place have limitations when connected to broadband products as opposed to using tradition land mobile units. Although even with limitations, these markets and products have the potential to effectively enhance the services provided by core networks as the technology continues to evolve. (continued on page 4)

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IWCE 2021 Recap (continued

Another major theme was solving interoperability challenges. As one speaker put it, "Interoperability is 80 percent coordination and 20 percent technology."

ALMR is a great example of a system this is built on partnerships between federal, state, and municipal entities; however, a great deal of interoperability coordination is truly local. On the technology side, multiple systems and agencies can be bridged together, however that must be done in a conscientious way to ensure that resources are used for the benefit of all users.

Cybersecurity was given a lot of "airtime" at the expo. While many of us think about it in terms of our everyday use of technology and practicing safe computing habits, major systems can and have been the target of cyberattacks.

We also heard from several speakers on different security issues and challenges that affect not only radio systems but 9-1-1 and other critical infrastructure, as well. ALMR is already following many best practices to prevent intrusion into the system or accidental changes that could compromise the operations of our members.

Many other items were discussed over the four-day conference, which will be meeting again in March of 2022. The ALMR system staff will continue to keep an eye on emerging technologies and trends in this space.

If your agency is considering implementing new technologies, they often require a system change or a security assessment before being connected to the network. Before making any purchasing decisions, please contact the ALMR Help Desk to review the proposal and begin any approval process that is necessary.

(Article by Mr. Dan Nelson, ALMR Operations Manager)

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Did You Know?

All pre-existing cryptographic keys or configurations shall be cleared, or zeroed out, in a manner which prohibits the radio from having access to the ALMR system voice network, before being sent to maintenance or prepared for decommissioning. It is also the responsibility of each agency to clear cryptographic keys and configurations before a subscriber unit is sent for maintenance or decommissioned. (See Information Systems Clearing and Sanitization Procedure 200-4 for complete details.)