ALMR INSIDER

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ALMR Help Desk

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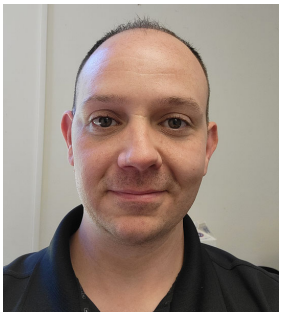
Inside this issue:

Meet Your New ALMR System Manager

Mr. Nik Fahnestock recently replaced Mr. Travis Conant as the ALMR System Manager. Nik has been with ALMR since 2019 as a System Technologist, performing preventative maintenance, repairs, and troubleshooting on the system. In this role, he has traveled throughout the state and worked on nearly every aspect of the system.

Nik's radio experience started prior to 2001 with building simple radios and taking electronics classes in school. He joined the Air Force in 2001 as a "Ground Radio Maintenance Technician" and throughout his service held positions as training manager, deployment manager, radio spectrum manager, quality assurance, and safety manager.



After leaving the Air Force, he worked as an electronics and engineering technician on a trunked radio system at Ellsworth Air Force Base in South Dakota, performing many of the same duties as required on the ALMR system.

Nik joined Bering Straits Information Technology in 2019 and relocated to Alaska with his wife and two kids. Please join us in congratulating Nik on his promotion and new leadership position here at ALMR.

ALMR System Software Upgrade 2021.1

Our members have likely been hearing us talk about "upgrades" for quite a while now – about two years in fact. There have been several components of the ALMR system that have been undergoing upgrades in preparation for upcoming events. The GTR upgrade at each radio site has been a prerequisite to work occurring this summer and is almost 100 percent complete. In addition, there are upgrades occurring to some Department of Defense owned sites involving their microwave connections and Quantar replacements with GTR repeaters.

These steps are in preparation for the upcoming system software upgrade, with most of the work scheduled to take place in August and September. This involves work at the system core, but it may also affect our member agencies in several different ways.

Dispatch centers that have consoles directly connected to the system core will have software upgrades and hardware replacements occurring at their centers, likely resulting in some downtime or use of backup systems. This is expected to begin in August.

As a result of the upgrade, the system database will be "frozen" beginning September 12 until the upgrade is complete in early October. All members are requested to submit any changes to the system before September 12 if possible. This includes adding or deleting radios, changes to talkgroups, and similar transactions. This will allow the changes to go forward to the new version without significant manual processing.

Members may see some occasional downtime at sites or additional maintenance zone controller rollovers as technicians are working. We will follow all usual procedures for maintenance and downtime, including announcements ahead of time and scheduling during off-hours, when possible. Please continue to monitor the Daily System Status e-mail from the Help Desk for scheduled downtime or other maintenance activities during this busy season.

If you have questions about the upgrade or how it may affect your agency, please contact Mr. Dan Nelson, ALMR Operations Manager, dan.nelson@wostmann.com.

Farewell Wishes

We want to take a few minutes to recognize our outgoing system manager, Mr. Travis Conant. Travis has been with ALMR for over ten years, having worked as a senior System Technologist before taking over the role of System Manager in 2015.

Travis recently accepted an offer from TelAlaska as the vice president of operations. In that role, he will be working with another large network supervising field personnel, maintenance, and construction projects. TelAlaska has a large service area throughout the state providing telephone and internet services.

All of us at ALMR thank Travis for many years of service to the system and his dedication to public safety throughout the state. His calm demeanor and can-do approach to problem solving will be missed. Congratulations and best of luck to you in your new role!

ALMR RF Site Periodic Maintenance Inspections

An essential part of maintaining any equipment is to perform preventative maintenance. The ALMR system, built for high reliability critical communications, has a robust maintenance program to ensure that any issues are caught before they impact our user community. The Daily System Status Report is distributed each morning by the Help Desk and will show any preventative maintenance inspections (PMI) that are scheduled to take place. These inspections primarily take place during the spring, summer, and fall months to allow for easier site access, especially to sites that require a helicopter.

What occurs during a PMI? In general, technicians from the System Management Office (SMO) are checking all hardware at each radio site to ensure that the system is functioning properly. They test that the equipment is aligned, transmitting, and receiving on the correct frequency and at the proper power level. Each channel at the site must be transmitting within a certain tolerance of the frequency that is assigned. If the hardware is not working properly, coverage and performance of the system may be diminished.

At the same time, the system is tested for traffic that is received by the site. A signal is generated to ensure that the correct frequency is used and that the signal does not have an excessive rate of errors. These tests ensure that the repeaters are working properly, and can also identify any problems with the cables, connectors, and antennas. These tests use a radio service monitor to test the transmit and receive functions. In addition to radio testing, the hardware is inspected for any damage, cleaned as necessary, in general ensuring the equipment is in peak operating condition.

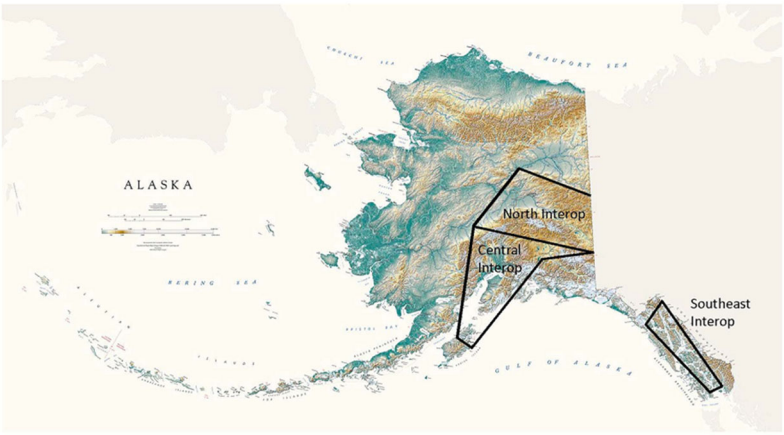
During a PMI, capacity is reduced as one channel of the site is taken out of service at a time to perform the tests. In addition, the entire site must be offline for about one hour to complete the process. The ALMR Help Desk is in contact with the dispatch centers affected by the site outage, ensuring that there are no major incidents or other reasons to delay the downtime.

While the ALMR staff is maintaining the core system at each site, the Alaska Public Safety Communications Services (APSCS), a division under the Department of Public Safety, maintains other equipment utilized by the ALMR system. They perform maintenance checks on the microwave communications equipment, the physical tower structure, buildings housing equipment, HVAC systems, and the emergency batteries and generators at each site.

Most sites are connected via the state private network known as SATS (State of Alaska Telecommunications System) that APSCS maintains. Some areas are served by commercial circuits provided by companies such as GCI or ACS, and the maintenance of those connections are the responsibility of those agencies. For all other sites, ALMR and APSCS work jointly to ensure the highest reliability and uptime for the system.

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

ALMR Interoperability Zones



In late 2020, the ALMR User Council approved a change to the Interoperability Zones on the system. In summary, the old zones which were divided based on Alaska State Trooper detachments have been consolidated to three zones and include both ALMR talkgroups and conventional tactical channels.

The three zones for interoperability are North, Central, and Southeast. Each zone contains a hail or call channel similar to the old plan, which are monitored by dispatch centers. Then each area has five command talkgroups, an announcement group, and several conventional call, tactical, and repeater options in accordance with that National Interoperability Field Operations Guide or NIFOG.

We are noticing that several agencies have not yet transitioned to the new interoperability zones in their radio programming. This can cause difficulties in communication between users with the old and new zones during an incident or exercise.
Please check to see if your radios have converted to the three zone interoperable model with the hail and command channels for each zone. If your radios still have channels such as A Hail, A_IC2, etc. they are due for an update. ALMR policy requires members to have at least the interoperable zone that they are located in programmed to each radio, but if the radio allows, we recommend all three interoperable zones be programmed.

The ALMR website has training videos available for programming changes to the XTS model and APX model radio. The transition is also discussed more completely in the ALMR Concept of Operation document. If member agencies require the codeplug for the new zones or have any additional questions, please contact the Operations Management Office.

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

Will Broadband Replace LMR?

It seems like once a year, or more, we hear LMR will no longer be needed because broadband will be able to fully replace LMR. This year it started anew during IWCE.

I previously reported on the FirstNet (built with AT&T) announcement that it will be adding eMBS. eMBS provides one-to-many capabilities, a feature of LMR that has been used for many years. We still don't know how eMBS will work or when it will be available, but the bottom line is that for the first time FirstNet will be capable of sending information on a one-to-many basis. For example, a video of a major incident could be broadcast simultaneously using eMBS to scores of people in real time. Think of how useful this would have been during the Boston Marathon bombing. The police were able to send pictures of the bombers, but if they could have broadcast the pictures to everyone in every jurisdiction that touched Boston, they may have been able to capture the bombers sooner.

There will be many uses for eMBS, but just after the FirstNet announcement, the talk started up again. "Wow, now FirstNet really does all of the same things as LMR does, so why do we need both?" Neither the question nor the answers have changed and some are restated in the following bullet points:

- Having two networks provides an additional level of redundancy.
- LMR systems have been built over the years to cover jurisdictions. While FirstNet may provide the same coverage, higher-power LMR base stations, repeaters, and higher-power mobile and portable radios are important additions.
- Currently, no broadband network can provide talk-around or off-network push-to-talk, and indications are broadband systems will not solve the off-network issue anytime soon. If broadband does solve this issue, will it provide the same level of off-network communications as LMR today?
- Graceful Degradation: If an LMR system fails, it will fall back to a trunked system, then to repeaters with the final fallback communications capability being off-network or simplex. A broadband network, even if hardened, has no fallback.
- FirstNet and other broadband networks provide transmission for pictures, video, data streams, and more that cannot be duplicated on LMR. FirstNet has added a host of capabilities to make first-responder's jobs easier and safer.

These items explain why I am pro-LMR/LTE coordination with the ability to use PTT over both. Smart agencies will continue to use both LMR and FirstNet in the field. As I have stated before, I would like to see more integration of the two networks and when Next-Generation 9-1-1 (NG911) is ready, I hope it will be blended into the mix as well.

(Article excerpts from "Will Broadband Replace LMR,?" All Things FirstNet, Andrew Seybold, April 28, 2022)

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Requesting ALMR System Changes

Because ALMR is a closed system, agencies may not purchase hardware/software to be added to the system without going through the System Change Request (CR) Management process in accordance with System CR Management Procedure 400-3

The purpose of the System CR Management Procedure is to ensure all proposed changes to ALMR are properly documented, reviewed, evaluated, coordinated, and approved prior to implementation.

The change requestor must submit a system CR form to the Operations Management Office. The form can be found on the web site at https://alaskalandmobileradio.org/membership/forms/. The OMO will review the form and enter it into the tracking log and then route it to the correct office for review. Depending on the nature of the change, a subject matter expert (normally the System Manager) and the Information Systems Security Manager will review the change and provide their approval or disapproval, as appropriate.

Once the proposed change has been reviewed and passed the technical and security review, the form will be sent through the State of Alaska and Department of Defense representatives for their signature and then to the Executive Council for approval.

Once approved, the submitter will receive a copy of the final form. Then, and only then, can the requester proceed with purchasing the hardware/software. The requester's agency must coordinate directly with the System Management Office to schedule the installation date to ensure it does not interfere with ALMR daily system operations.

(Article by Ms. Sherry Shafer, ALMR Operations Management Office)

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Did You Know?

When difficulties with radio operations occur, users should document date, time, specific location, radio serial number and alias, radio ID, and the difficulties experienced. This information should then be routed to the ALMR Help Desk, so all data can be analyzed, and findings reported back to the customer.

(Excerpt from ALMR Outage Reporting Procedure 400-11)