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Is Your Agency Planning on Purchasing New Subscriber Units?

As ALMR continues to transition to TDMA technology, many member agencies are looking to replace their aging radio subscriber fleet. Additionally, it is expected radios which meet new National Fire Protection Association (NFPA) standards that fire departments may be interested in acquiring will be released mid 2023.

With the rapid evolution of technologies, more and more radio hardware and software options become available to members. These functions can cover remote access and programming, convenience features, and many other categories that go beyond basic push to talk.

When planning a radio purchase, particularly for large fleet replacements, there are several factors to consider. First, consider standardization of your radio equipment, options, and codeplug. For most agencies it is advantageous to have radios that work consistently across users and functions. This allows for efficient programming, maintenance, and training.

Although standardization is a critical part of an efficient operation, the next step is to consider the radio and the use case proposed. In cooperation with your radio dealer, determine what specifications are required for your users. For instance, while firefighters or police officers may require a rugged radio for heavy use, public works or supervisory personnel may only have need for a light-duty radio. Carefully developing your specifications can ensure you are not paying for radios or features not needed.

At the same time, specifications should include any accessories necessary for your programs, both now and in the future. Portable and mobile radios have a wide variety of available accessories such as remote speaker microphones, remote headsets, surveillance and tactical accessories, and many more. The types and capacity of batteries and chargers may also vary depending on your agency needs.

Member agencies may also benefit in "future-proofing" their radios and purchasing units that have features that may not be usable now, but may be considered by your agency in the future. Some examples of these features may include remote programming using wi-fi, radio management, Bluetooth, GPS functions, encryption, and potentially others. It is generally cheaper and more efficient to purchase radio options initially, rather than adding them later, but again, agencies are cautioned on buying nice-to-have functions that will never be utilized.

The ALMR system is highly controlled to meet strict uptime requirements and security standards. Therefore, any changes to the system must go through a change request process prior to implementation. The system does not necessarily support every function that is available for P25 systems offered by various vendors and some offered radio features require work on the system level. It is highly recommended that, prior to purchasing any radio or feature, agencies contact one of the ALMR offices to verify a proposed feature or product will work as expected and to ensure any required change process is followed ahead of time.

Finally, ensure potential subscriber units that you wish to purchase are listed on the Approved Equipment List (AEL) on the ALMR website and are purchased with TDMA Phase II capability. Radios not on the AEL will not be added to the system by the Help Desk. If you are interested in purchasing a TDMA-capable radio that is not listed on the AEL, contact the ALMR Operations Management Office to discuss the Acceptance Test Procedure (ATP) to add units to the approved list.

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

30 Years of Project 25 - Transcending Boundaries, Enabling Interoperability

Federal, state, local, tribal, and territorial agencies continue to embrace Project 25 (P25) as the de facto American National Standards Institute (ANSI) accredited technical standards for LMR communications interoperability. Thirty years ago, P25 began as a user requirements-driven standards development process and remains that way today. P25 has enabled nationwide holistic interoperability for mutual aid that led to preprogrammed channels, common infrastructure, flexible subscriber units (SUs) and talk group naming conventions — forever changing the effectiveness of field response and operations for public-safety first responders. The continuing objective of P25 is to provide critical communications capabilities while enabling comprehensive interoperability between public-safety responders to achieve enhanced coordination, timely response, and efficient and effective use of communications resources. Today, P25 continues to transcend boundaries to enable comprehensive operability and interoperability for the public-safety community. The availability of public-safety applications and services from commercial carriers supporting LTE and emerging 5G technology presents additional opportunities for P25 interoperability. The development of the LMR/LTE interworking function (IWF) is continuing, and the Alliance for Telecommunication Industry Solutions (ATIS)/Telecommunications Industry Association (TIA) Joint LMR and LTE working group indicates that the resulting technical standards will embrace the existing P25 Inter-RF Subsystem Interface (ISSI) standards and capabilities as the foundation of the new IWF capabilities.

The P25 ISSI permits roaming to a neighboring system while maintaining home system contact. This interface also supports the connection of non-P25 technologies such as cellular push to talk. ISSI enables the interconnection of radio frequency (RF) subsystems. This allows public-safety agencies to link their networks together to create a "system of systems" architecture expanding coverage and interoperability.

P25 direct connections using the P25 Common Air Interface offer reliable "radio-to-radio" communications when infrastructure is unavailable or overwhelmed. P25 standards enable communications between neighboring jurisdictions during a common incident, special event, or vehicle pursuit and enables outside agencies to respond during mutual or automatic aid incidents. P25 radios can be programmed with national, statewide, regionwide and local mutual aid interoperability talkgroups for use in emergency and disaster incidents. As P25 standards-based systems have been implemented throughout the U.S. and around the world, many public-safety agencies have sought to connect their systems with neighboring or other contiguous, wide-area systems to enable more effective interoperable communications for mutual aid operations, or simply to expand their own coverage while avoiding additional capital costs. P25 technology provides comprehensive and robust security services to secure voice and data transactions. P25 embraces the encryption algorithm endorsed by the National Institute of Standards and Technology (NIST) for the Advanced Encryption Standard (AES).

The coming addition of link layer encryption (LLE) will further enhance encryption and security of the control channel messages upon the completion of the technical standards and manufacturers' production of LLE products.

The reliability and interoperability of P25 technology has also been adopted worldwide. Currently, P25 technology has been implemented in 80 countries, and this number is growing.

As technology evolves, so does P25. The technical standards continue to be updated and upgraded as users find and develop new requirements and improvements to address challenges. As the standards have matured, the user community has embraced P25 equipment as the cost-effective critical communications solution. The public-safety community realizes P25's value in providing secure, highly available, scalable, and shareable critical communications solutions built for the public-safety environment. P25 provides effective cost containment/avoidance, enhanced spectrum efficiency, and operational benefits of multi-jurisdictional, regional, and shared system of systems environments. Substantial regional networks are commonplace, with several larger than some current statewide systems.

P25 is also the recommended technology of choice for public-safety emergency communications interoperability in the Fiscal Year 2022 SAFECOM Guidance on Emergency Communications Grants and the National Emergency Communications Plan.

(Article excerpts from Mission Critical Communications Special Edition Summer/Fall 2022, "30 Years of Project 25 - Transcending Boundaries, Enabling Interoperability by James Downes and Stephen Nichols)

SOA Quantar Replacement Project Completed

After two years, the ALMR GTR repeater upgrade project is complete! This project involved replacement of Quantar site radios at each SOA ALMR site, updating technology that was originally installed in the system. Along with updating the site radios, this was a prerequisite to the 2021.1 system software platform upgrade and was completed just a week ahead of the that upgrade window start date.

The final site, Sunny Hay in Southeast, was finished on September 21 after many months of waiting for an appropriate weather window, combined with the necessary logistical arrangements to transport the technicians and over 700 pounds of equipment to the site via helicopter.

ALMR 2022 Training Overview

The Operations Management Office (OMO) provides training on ALMR topics that are of interest to our member agencies. Generally training focuses on system operation and interoperability, as well as general information and industry best practices.

Training generally takes place in two forms. The first is short video vignettes which provide concise information on a specific training topic and are typically 5 to 15 minutes in length. The second form is live training sessions which are approximately an hour long and are conducted through a Microsoft Teams teleconference allowing for interactive discussion and questions from attendees.

In 2022, the OMO produced vignette videos on:

- Site trunking versus wide area trunking
- Factors to consider when choosing subscriber radios
- An overview of the TDMA technology
- A review of member agency responsibilities

Live training events included Radio Programming Best Practices and an ALMR Town Hall regarding the TDMA transition.

All training sessions are accessible on the ALMR website. (https://alaskalandmobileradio.org/training-videos/)

The OMO is always looking for training topics to present in the future and welcomes input from our members. Please feel free to fill out the 'Request Training' form on the ALMR website under the training menu or call the OMO directly with any ideas or requests for future training sessions.

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

Member Agency Outreach

The ALMR Operations Management Office has started another outreach and is contacting member agencies to discuss their current inventory and the necessary steps to be taken for the upcoming TDMA transition to be completed by December 31, 2026.

These meetings are typically less than 30 minutes long and are being scheduled with the primary account point of contact (POC) for the agency. This format allows one-on-one time to discuss any agency special circumstances that a large discussion or meeting may not allow for.

Agencies are being contacted randomly, beginning with the local/municipal agencies. Agency POCs are encouraged to reply to the email invitation from the Operations Manager and select a date and time convenient for their schedule.

Meetings are held via Microsoft Teams (teleconference) and are expected to continue through the end of 2022 and into early 2023.

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

Interagency Communications

Continuous training is the cornerstone of many public safety functions, and it is critical to include communications in any training plans. Although radio and other communications are a common daily activity for many members, larger scale or less frequent events can often require communications with other partners or entities that are not part of a typical communications plan. Exercising those plans ensures agency communications are ready and will function as expected during an actual incident.

Planned events are an excellent opportunity to test communications outside of your normal activities. Occasions such as parades, festivals, or holiday celebrations can be utilized as training and exercise events. As an example, in August, the Ironman event in Juneau utilized the ALMR system for safety operations during the race, which provided communications with first responders and race volunteers across a wide area.

There are resources available from the National Council of Statewide Interoperability Coordinators (NCSIC) and the Cybersecurity and Infrastructure Security Agency (CISA) that provide helpful tips, ideas, and checklists when putting on communications exercises. Of note are the Planning, Training, and Exercise Resource Guide as well as Conducting Training and Exercise in the New Normal. These resources and many others are available at https://www.cisa.gov/safecom/training-and-exercises.

ALMR encourages agencies to seek out planned events or to use regular training drills to test and improve their emergency communications planning. Remember, training and exercises don't have to be large and complex events. Developing a training evolution that begins with basic functions in a workshop or in a functional exercise can mature into full scale exercises as your members become proficient with the technology and details of your communications plan.

If your agency is planning to utilize the system for an upcoming event or drill, please reach out to the Operations Management Office for assistance. We will work with all stakeholders to ensure there is no adverse impact on the system, can provide guidance on interoperable communications planning, and also review your communications plan.

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

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Subscriber Acceptance Testing

The Acceptance Testing Procedure (ATP) is designed to ensure radio equipment authorized to operate on the ALMR system can perform the basic radio functions required by user agencies as expected.

These tests include functions from tuning to a talkgroup and transmitting voice calls, to making private calls and recovering from a site busy.

The ATP is performed by the System Management Office and observed by the Operations Manager. It is very thorough and generally takes a full day, per radio, to complete the test and certify the radio for use.

Any vendor that makes radio equipment for Project 25 radio networks may present their subscribers for an ATP. As a note, passing the ATP test does not signify an endorsement of any manufacturer's product by ALMR, but rather certifies that the radio will function correctly on the system.

All radios approved for use on the system can be found under the membership menu on the ALMR website (https://alaskalandmobileradio.org/membership/mobile-portable-consolette-and-aircraft-radios/).

If a member agency is interested in purchasing a radio that is currently not on the approved equipment list (AEL) for ALMR, they should encourage the vendor to contact the Operations Management Office to schedule an ATP prior to committing any agency funds. Non-approved radios will not be added to the system.

The two most recent subscribers to be approved and added to the ALMR AEL were provided by Icom America. Additional models may be scheduled before the end of 2022 or in early 2023.

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Did You Know?

General articles of interest on subjects ranging from emerging security threats, to training opportunities, to FEMA regional meetings are posted to the ALMR web site and are viewable on the opening page. These "posts" are regularly updated with the latest information available.

If you have an item of interest that could be of benefit to all ALMR agencies, please contact the Operations Management Office.