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Inside this issue:

Radio Codeplug Programming

It has come to the attention of the Operations Management Office (OMO) there are still radios in the field that are programmed incorrectly, which causes individuals to question the ALMR System. Most recently, the OMO heard a complaint that System coverage was poor during an exercise in an area that is in close proximity of two ALMR sites. The State of Alaska (SOA) dispatched a technician to the area in question and performed radio checks and found no coverage issues. The ALMR System Manager also went to the area and performed extensive radio checks with no issues found.

At that point, the individual that filed the complaint was asked to forward his codeplug to the System Management Office for analysis. Multiple issues were discovered with the users codeplug programming including several affiliated/prioritized sites were in areas outside his normal operating area (and the exercise area) and the scan function was scanning between conventional and trunked channels. As reported in an earlier Insider article, scanning is available, but it is not recommended, especially between trunked and conventional channels. Scanning between these two functions can cause missed receive audio lasting up to six seconds.

As you can imagine these issues had a dramatic impact on the functionality of the agency's radios during the exercise, all due to incorrect programming.

The ALMR Help Desk has also noticed agencies programming duplicate IDs, using the users name as the alias, naming convention errors and incorrect antennas, all of which cause confusion and degraded service.

Agencies must ensure that individuals and organizations performing their radio programming have a good understanding of the ALMR System, the correct service software and know the ALMR policies and procedures surrounding programming. A list of service providers can be found on the ALMR web site located at www.alaskalandmobileradio.org. If you have any programming questions, please don't hesitate to call the ALMR Help Desk.

Lastly, it has also been noted that the SOA Standard Interoperability Channels in many agency ALMR radios do not comply with the standard lineup listed below.

(Article by Mr. Rich Leber, ALMR Technical Advisor, retired effective July 1, 2016)

Standard Interoperability Channels for all State of Alaska Radios

Line#	Name	Freq TX	PL TX	Freq RX	PLRX	Mode	Description
1	LESX	155.2500	none	155.2500	CSQ	NBFM	Law Enforcement
2	EMS-S	159.2100	none	159.2100	CSQ	NBFM	Emergency Medical Service
3	SAR	155.1600	none	155.1600	CSQ	NBFM	Search & Rescue
4	CH6	156.3000	none	156.3000	CSQ	WBFM	Intership Safety
5	CH16	156.8000	none	156.8000	CSQ	WBFM	Calling
6	CH17	156.8500	none	156.8500	CSQ	WBFM	State Control
7	CH22A	157.1000	none	157.1000	CSQ	WBFM	Coast Guard Liaison
8	VCALL10	155.7525	156.7	155.7525	CSQ	NBFM	VHF Calling Channel
9	VTAC11	151.1375	156.7	151.1375	CSQ	NBFM	VHFTactical 1
10	VTAC12	154.4525	156.7	154.4525	CSQ	NBFM	VHF Tactical 2
11	VTAC13	158.7375	156.7	158.7375	CSQ	NBFM	VHF Tactical3
12	VTAC14	159.4725	156.7	159.4725	CSQ	NBFM	VHF Tactical 4
13	ASTT					ALMR	AST coordination
14	EMST					ALMR	EMS coordination
15	DECT					ALMR	DEC coordination
16	DNRT					ALMR	DNR coordination

Notes

Narrow Band per FCC rules		NBFM	Narrow Band FM
Marine channels remain Wide Band ALMR uses P25 and trunking		WBFM	Wide Band FM Trunking
		ALMR	P25
P25 Modulation is not used for conventional interoperability		P25	Conventional P25 Digital
	CSQ		Carrier Squelch

Why You Should Do Preventive Maintenance on Your Radio Equipment

To go along with the subscriber programming article on page one, we must not forget maintenance of mobile and portable radio equipment utilizing ALMR, or any other system. Many users are of the opinion that once handed a radio, it is good to go for life. Not so! All radios should be checked on a regular basis to ensure that the transmit and receive parameters are within factory specifications and that the daily assault from dust, water, snow, cold and heat in the Alaskan environment hasn't caused excessive wear and tear . It is a proven fact that regular preventive maintenance extends the life of your two-way radio equipment and reduces expensive repairs.

Granted, radio maintenance takes time and is an added expense for an agency, but you can't put a price on a responder's safety. Most radios spend the majority of their life in standby and problems aren't discovered until the radio is suddenly needed for an incident response. That's not the time to find out that the radio has a problem.

Preventive Maintenance:

- Keeps equipment in top condition
- Extends equipment service life and saves money
- Ensures the equipment is operating within manufacturer specifications and remains compliant with FCC regulations
- Reduces user uncertainty and removes guesswork
- Increases first responder safety

Your preventive maintenance program should include (but not be limited to) the following:

- Physical inspection of the equipment
- Removal of dust and foreign substances inside and out
- Measure, record, test, tune, align and restore to factory specifications and within FCC regulations
- Ensure correct receive and transmit frequencies
- Check transmit deviation
- Evaluate battery condition and service life
- Check forward and reflected power in the antenna lines of mobile radios
- Recalibrate equipment to original parameters based on your programming
- Upgrade with the most current firmware.

Your ALMR radio is another tool in the public safety tool box and just as important as a firearm or fire hose. You don't assume that that your firearm can go a few years without any maintenance, or use, and the same goes for your assigned radio(s). They need an occasional checkup to ensure they are in optimum condition and ready, when needed.

(Article by Mr. Rich Leber, Technical Advisor, retired effective July 1, 2016)

Enterprise Technology Services (ETS) Subscriber Maintenance Service

Are you seeing low RSSI levels within a known 'good' ALMR coverage area? Getting constant "bonks" or no site affiliation? How about distorted transmit or receive audio? As users of the ALMR System, you may have experienced some or all of these problems with your own radio. In most cases, these problems are not caused by the ALMR network, but are simply the result of defective subscriber radio equipment or improper use.

ALMR high site radios provide the RF coverage necessary to work reliably with your radio and are serviced annually by system technicians. Additionally, the System is routinely monitored for failures by ALMR and State of Alaska (SOA) Telecommunications System (SATS) technical personnel. Site problems are usually identified and corrected before they ever become known to the users. But to fully achieve 99.999 percent reliability, the users of the System must service their personal subscriber radios as well. When was the last time your ALMR compatible mobile or portable radio was serviced by a qualified radio technician?

Over time, radios can drift out of alignment and negatively affect their performance. As with all precision instruments, they must be occasionally recalibrated. Enterprise Technology Services (ETS) now utilizes the Aeroflex 3920B radio service monitor which features the Auto-Test II environment. With the Auto-Test II feature, highly precise radio alignments are performed automatically as deficiencies are measured and corrected by the Aeroflex 3920B service monitor.

Testing and alignments are completed in as little as 5 minutes per radio. ETS/SATS recommends servicing radios annually for peak service performance. The following list is of the radio makes/ models that we currently support with the Auto-Test Feature:

- Motorola ASTRO 25 (All Models)
- Motorola APX (All Models)
- EF Johnson 5100/5300 Series
- Bendix King (BK) KNG
- Harris P25
- Kenwood 5x20 Series
- EF Johnson Viking

For ALMR members not belonging to a State agency, many local commercial radio shops also offer the Auto Tune service and you should contact your radio servicing vendor regarding scheduling maintenance for your radio.

SOA agencies can submit a ticket in the Service Desk Manager (SDM) to the ETS SATS radio shop to have their radios checked out and tuned up.

(Article provided by Mr. Patrick Thornton, SOA ETS)

As I Walk Out the Door

I remember as a wide-eyed kid, I saved enough from my paper route to purchase a subscription to "Sports Afield" magazine. I always looked forward to reading stories about adventures in Alaska and I knew that if the chance ever presented itself to go to Alaska, I would jump at it.

Time passed and my career led me to many interesting parts of the country. I was lucky enough to have a spouse who always said, "Let's Go!" when I would come home with my latest transfer. In 1988, while serving in Cleveland as an electronics technician at one of the three-lettered Federal agencies, I heard of an opening at the Anchorage office and was lucky enough to be selected for the position. We spent three and a half years up here and were very happy, but time came to move on, so I took a senior position in the Cincinnati office, where I retired in 2004.

Six months after I retired, I got a call from a longtime peer who said a small company in Alaska was looking for a technical writer to help develop policies and procedures for the new Alaska Land Mobile Radio (ALMR) System. That led me to my second stint in Alaska. When I came to Alaska this time, it was supposed to be a one-year gig and then go back to Ohio and settle into retirement. That was ten years ago, and now we are going to retire in Tennessee.

In the latter half of 2015, we all watched as Shell Oil announced they were pulling out of Alaska, 2,600 troops in Anchorage and Fairbanks were on the chopping block, oil prices were declining and the State was running a $3.5 billion deficit. At that point, my wife and I decided it might be time to consider pulling the plug and moving on before any big downturn in the economy. At the same time, our realtor called and said if we were considering selling, we had better do it now while the housing market was still strong. With all that said, we sold our home and recreational vehicle and moved into an apartment.

In addition to economic reasons, I already knew some of my responsibilities would likely be eliminated during the next contract negotiation due to budget cuts. Little did I think, all of them would be cut in the Operations Management Office (OMO) FY17 contract and my position eliminated. However, I'm not bitter as we had planned ahead anticipating some challenges. It has been a great ten-year stretch, and I have had the pleasure of working with a multitude of very professional people associated with the ALMR System, both internally and within the user community.

Sadly, I am disappointed in what is happening to one of the nation's first and best statewide interoperable radio communications systems, due to a lack of understanding regarding the technology involved and the importance of ALMR to Alaska's first responders by some who are in a position to adequately fund it. ALMR has always lacked a champion in Juneau and I'm afraid that the Public Safety community and ALMR System are going to pay the price.

Thanks to all of you that I have had the pleasure of working with over the past ten years, and I'll be watching from the lower 48 to see what happens in the "Great Land."

(Mr. Rich Leber, ALMR Technical Advisor, retired effective July 1, 2016)

Who Has Priority Use of the ALMR System?

Misinformation is being floated around stating one public safety agency or another has priority use of the ALMR System. The fact is that no public safety agency operating on ALMR has priority over any other public safety agency on the System.

In the event of a major catastrophic event, and the possibility of a site or sites in the region being overwhelmed by System traffic, minimize traffic could be put into effect. In accordance with the Radio Usage and Transmission Protocols Procedure 300-6, *"Minimize traffic procedures may be put into effect during emergency situations, if System traffic dictates the need. The System Management Office (SMO), in consultation with the OMO, will make the determination when minimize traffic is required."*

What does that mean exactly? In case of a fire, similar to the Miller's Reach or Funny River fires, the closest sites to the area could be inundated with traffic and channels busied out. The SMO, in coordination with the OMO and the POCs for responding agencies, could restrict site traffic to allow priority use by specific agencies in that area, until such time as the traffic levels drop. Once the traffic is considered manageable, minimize procedures are cancelled and normal use of the sites by all ALMR agencies is allowed.

Although this is the worst case scenario, there are other means available to help manage traffic levels during large incidents. Agencies should be familiar with, and train for, the use of the available Statewide and Regional Incident Command Zone channels that are to be programmed into all radios operating on the System. The information regarding the Statewide and Regional Zones and their associated Incident Command channels can be found in the ALMR Concept of Operation (para 5.1.4). All documents regarding the governance and use of ALMR are located on the web site (www.alaskalandmobileradio.org).

Over the past several years, agencies on ALMR have been given the opportunity to receive free training on the use of their subscribers, use of Incident Command channels and assistance in developing their agency response plans. Many agencies did not take advantage of that training and multi-agency responses to major incidents are often reflective of this fact.

(Article written by Ms. Sherry Shafer, OMO Documentation Specialist)

Cottonwood Site Suffers Lightning Strike

On Saturday, May 29, the receive antenna at the Cottonwood ALMR site (Wasilla) was struck by lightning, knocking the site off line and starting a short-lived fire in the shelter. Impacted by the outage at Cottonwood were MATCOM (Wasilla PD), Goose Creek Correctional Center (GCCC), and ALMR sites at Willow Mountain., Ernestine, Tsina and Divide.

During the outage, State of Alaska (SOA) Telecommunications System (SATS) and ALMR personnel re-routed the microwave (MW) connectivity for Willow Mountain, Ernestine and Tsina within a few hours. Re-routing connectivity through the Alcantra ALMR site for MATCOM and GCCC required additional coordination with Matanuska Telephone Association (MTA). Alcantra and MATCOM were connected on May 31 and ALMR connectivity to GCCC was completed by June 1.

Although Cottonwood ALMR RF and SATS equipment was covered with soot from the fire, none of it was destroyed because proper grounding limited the impact. However, all the equipment was removed on May 31, so the shelter could be rewired. Due to the possibility of future failure from damage that was not readily apparent, RF and MW equipment from several other sources was used to rebuild the Cottonwood site, which was returned to service by June 9.

(Article by Mr. Del Smith, Operations Manager)

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Memberships Extended

As approved by the ALMR Executive Council on June 16, all membership agreements will be extended for an initial period of 90 days and in 30-day increments, thereafter, as needed. This action is required due to the re-bid of the Infrastructure Operations and Maintenance Services contract and any associated changes to the scope of work, which will result in a delay in determination of any cost share amounts allocated to member agencies. Contact the OMO if you have any questions.

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