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Channels Added to Kenai, Kasilof and Harding Lake Sites

On March 14 and 15, respectively, channel capacity was increased at the Kasilof site (one channel) and Kenai site (two channels) when technicians from the Alaska Land Mobile Radio (ALMR) System Management Office (SMO) installed and activated the recently acquired equipment. Then on March 19, the Harding Lake site Channel 3 was activated after being turned off since 2007 due to a frequency conflict with Ester Fire, now making it a four-channel site.

Background: In late 2011 and early 2012, through the diligent efforts of Mr. Leon Morgan, the Statewide Interoperability Coordinator at the time, and Mr. Joe Quickel, 5 Star Team, the number of agencies operating on the ALMR System on the Kenai Peninsula significantly increased. Daily utilization by the new member agencies of the channels at the Kenai and Kasilof sites prompted a dramatic jump in "busies" for all the users. At the time, both sites only had three channels, one of which is a control channel. This resulted in only two channels at each site available for handling all communications traffic.

The ALMR User Council examined the site usage statistics and requested these specific sites be made a priority for upgrading of their channel capacity. State of Alaska (SOA) Enterprise Technology Services (ETS) personnel worked closely with the SMO to identify, seek FCC and NTIA approval, and license the frequencies needed for use by ALMR in the Kenai area. Once that was accomplished, the required equipment had to be located and/or purchased (i.e. combiners, etc).

Although the endeavor on the Kenai Peninsula took almost a year to complete, the busies dropped to zero at both sites the first weekend following installation.

The Peger Road site, although a four-channel site, continually experiences busies due to the extensive amount of voice traffic in the Fairbanks area. It was also chosen for priority upgrade at the same time as the Kenai Peninsula sites, and is currently pending the installation of one additional channel.

The User Council is now discussing the next priority sites for channel capacity upgrade. The Operations Management Office (OMO), the SMO and ETS will continue to monitor System performance and make recommendations to the User Council regarding increasing capacity of individual sites and the overall coverage area of the ALMR System.

ALMR 7.13 System Software Update Underway

Every year Motorola® develops and releases new features that provide enhancements to network operations, performance, reliability and security, as well as reducing operational costs. The most current system software and hardware update, 7.13, was released in December 2012.

The ALMR System currently operates on Motorola® software release 7.1.1, which was installed in 2006. Many enhancements to the System software and upgrades to the hardware it operates on, have occurred over the interim releases. Unfortunately, Motorola® does not provide continuing support for software iterations more than five releases back.

To ensure security of the System, and to take advantage of the enhancements and improvements to the software, the ALMR Executive Council and User Council requested the State of Alaska (SOA) and Department of Defense (DOD) seek funding for an overdue update to the System in early 2012.

Both SOA and the DOD were successful in obtaining the funding to initiate that update. Due to the need to maintain the critical day-to-day interoperability that has been achieved between ALMR and the Municipality of Anchorage (MOA) Anchorage Wide Area Radio Network (AWARN), funding for the AWARN System update to 7.13 was also (continued on page 4)

Land Mobile Radio - It's Not Being Replaced

This past week was a very busy week for Public Safety. IWCE was held in Las Vegas and was well attended. Further, there were a large number of sessions that discussed FirstNet, Public Safety broadband, and other related topics. Three FirstNet board members were in attendance. Two presented a keynote session that was standing room only, and the third provided his view of the Public Safety Broadband Network at the Radio Club of America breakfast, and he attended a number of sessions as well as the APCO broadband committee open meeting. Having FirstNet members present and speaking at this event is good for the Public Safety community.

Next up was the hearing held by the House Energy and Commerce Subcommittee on Communications and Technology held on Thursday to examine the construction of the nationwide broadband network for First Responders. (http://energycommerce.house.gov/subcommittees/communications-and-technology).

Then came the announcement that FirstNet will hold a teleconference meeting Monday at noon EST where the proposed General Manger will be voted on and some financial matters will be attended to. (http://www.ntia.doc.gov/other-publication/2013/03132013-firstnet-board-directors-meeting-agenda)

Next was the release of NPSTC's T-Band (470-512 MHz) report. This report, which will be sent to the FCC and others, is the result of many months and thousands of hours of hard work by the committee. The premise behind the report was to look at what other spectrum might be available to more than 11 major metro areas presently sharing TV spectrum, and the cost to do so. The committee sent out questionnaires, mined the FCC's ULS, held interviews, and held countless conference calls during the process. This is one of the most complete and best written reports I have seen. The bottom line: There is not enough existing Public Safety spectrum in the 11 major metro areas to move existing T-band users to, moving them will create more interoperability problems, and the estimated cost of relocating them would be upwards of $5.9 Billion (Billion with a B). NPSTC is known for this type of work but this is one of the very best reports it has ever produced as far as I am concerned and it is timely in its delivery.

One final note, you will see in the news, a press release that Alcatel Lucent demonstrated voice over LTE at the IWCE. It was not alone, since many of the vendors were doing so. The issue for me is that these demonstrations will continue to cause real problems for the Public Safety community as a whole. Land Mobile Radio, mission-critical voice systems will remain the mainstay of Public Safety communications for a decade or more. Yet some of those at the FCC, in Congress, and local elected officials keep reading about these demonstrations and so assume that voice is coming to Public Safety LTE RSN (Real Soon Now). This was a big topic of discussion at many IWCE meetings and I will be working with APCO, NPSTC, and the PSCR to come up with an easy-to-read (for lay people) one or two page fact sheet that stresses that LMR systems will remain a vital part of Public Safety communications for a very long time. What is a very long time? That is what we are trying to get a handle on, but suffice it to say that mission-critical voice will not be ready when the T-Band users have to move, nor will it be ready soon enough for today's LMR systems not to continue and to be refreshed and enhanced.

Demonstrations such as these hurt rather than help Public Safety. If Congress, the FCC, and our elected state and local officials all come to believe that voice over LTE is almost here, the impact on Public Safety communications could be a disaster. The unintended consequences could include some or all of the following:
1) Congress would not even consider rescinding the portion of the Tax Act that calls for the relocation of Public Safety T-Band users.
2) Congress would look at the rest of the Public Safety LMR spectrum and decide it is time to pass a law calling for it to be returned to the government for other uses.
3) States and local elected officials would kill the budgets for maintaining, refreshing, and enhancing today's Public Safety voice systems.

Please remember that when we fought for the Public Safety Broadband Network we were fighting for a new broadband system to AUGMENT existing voice systems by adding interoperable data and video services, NOT to replace existing mission-critical voice services. This new network is to ADD capabilities to Public Safety today, NOT replace what is already in place and working.

(Article material directly quoted from Public Safety News/ Intelligence, Public Safety Advocate News-Patterns Weekly News Summary by Mr. Andrew Seybold, March 17, 2013)

Tech Corner: The Value of Back-Up Generators and Their Proper Maintenance

Hurricane Sandy, the East Coast earthquake and South Central Alaska's major windstorm in September 2012 demonstrated that reliable backup generator power is essential in keeping public safety communications functioning during a disaster.

In the case of the South Central Alaska windstorms, although numerous commercial cell phone sites were off the air, particularly in the Anchorage area, the ALMR and AWARN generator equipped sites remained on throughout the incident.

With some exceptions, backup battery plants are generally good for a few hours, but a prolonged commercial power outage can severely cripple communications capabilities if a site, or sites, do not have alternative power sources. That's why ALMR radio communications sites and communications centers are equipped with and rely on generator power during commercial power outages.

To ensure the generator operates when necessary, weekly, monthly, quarterly, and annual maintenance must be performed. The generator manufacturer's maintenance regimen should be followed as closely as possible. If those requirements aren't available, the following items should be regularly checked:

- Fuel level and the correct seasonal fuel mixture
- Battery checked with a load tester
- Oil level – when was the last time it was changed?
- Oil filter
- Air filter
- Fuel filter
- Louver filters
- Louver motor – lubricate as necessary
- Belts and hoses – visual check for tension/cracking
- Coolant level and anti-freeze condition
- Radiator cap condition – check for leakage at the cap
- Transfer switch

Transfer switches are installed in emergency power systems to transfer the electrical load from the normal commercial power source to the emergency power source (generator) upon a commercial power failure. The transfer switch transfers and re-transfers the load automatically.

Maintenance programs for transfer switches include checking of connections, inspection or testing for evidence of overheating, excessive contact erosion, removal of dust and dirt, and replacement of contacts when required.

In the absence of manufacturer's recommendations, National Fire Protection Association (NFPA) 110 suggests visual inspection and cleaning annually. The NFPA 110 further recommends an annual maintenance program including one major maintenance and three quarterly inspections. The major maintenance includes a thermographic or temperature scan of the automatic transfer switch.

Automatic transfer switches must also be operated monthly to ensure it will properly function when necessary. The monthly test consists of electrically operating the transfer switch from the standard position to the alternate position and then a return to the standard position.

SAFETY NOTE: During maintenance, precautions must be taken to avoid the generator set starting by an automatic transfer switch, remote start/stop switch or another remote start engine command.

Before working on the generator set or any of its connected equipment, such as the transfer switch, disable the generator set as follows:

a) Move the generator master switch to the OFF position
b) Disconnect the power to the battery charger
c) Remove battery cables starting with the negative (-) lead first

If your generator is located outside, in the elements, be sure to check for critters nesting under the covers.
The generators are a critical part of keeping the ALMR public safety communications System up and operational. Make sure they are maintained like other critical systems.

TIA Defines Intrinsically Safe Battery Standard

The American National Standards Institute (ANSI) has approved the Telecommunications Industry Association (TIA) new standard for LMR batteries. The TIA standard answers public safety's need for technical information related to the design, manufacturing, and testing of battery-powered, Land Mobile Radio (LMR) equipment. These radios are designed and manufactured to be incapable of being a source of ignition in Division 1 Hazardous (Classified) locations as defined in Article 500 of the National Electric Code (NEC) NFPA - 70. This standard relies heavily upon a contribution from Underwriters Laboratories, Inc.

Background: In September 2010, NPSTC learned a new version of the intrinsically safe standard affecting land mobile radio (LMR) was to go into effect January 1, 2012. FM Approvals, a standards certification organization, announced their intention to replace the current, still safe standard FM 3610:1988, with the new FM 3610:2010. The energy constraints imposed by meeting the new FM standard would have resulted in limiting the transmit power capabilities of LMR products.

Power would have been reduced if traditional product size, weight, and duty cycle requirements (continued on page 4)

7.13 Update (continued from page 1)

sought and obtained by the MOA.

Contracts to update ALMR and AWARN were let by the DOD and SOA in the summer of 2012. The MOA contract for the concurrent update of AWARN was let in December 2012.

Initial planning meetings in Anchorage to discuss options and timing of the 7.13 update with the Motorola® upgrade team, ALMR staff and user representatives started in August 2012. Based on decisions from the meeting, Motorola® began working on the design and returned to Anchorage in October to conduct the critical design review (CDR) of the proposed 7.13 hardware and software update.

Project managers for SOA, DOD and Operations Management Office (OMO) and System Management Office (SMO) staffs are now currently meeting every two weeks with the Motorola® update team and will soon start weekly meetings.

It is anticipated that installation of hardware required for the update at the North and South Zone master sites, dispatch console locations and selected ALMR sites will be initiated in the June/July 2013 timeframe. Actual "cutover" of the System from the 7.1.1 software to the 7.13 platform is planned to occur between August 5 - 20.

OMO and SMO staffs have been contacting dispatch centers to discuss their backup plans for planned, short-duration outages that will be necessary as the System is "cut over."

As more information is obtained on the actual implementation schedule and anticipated impacts to the System, it will be provided via the current e-mail listing utilized for ALMR Daily System Status reports/outages.

Please contact the ALMR Help Desk if you wish to discuss the anticipated impact to your agency.

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Batteries

(continued from page 3) were retained. Significant system infrastructure expansion might also have been necessary to maintain current geographic and in-building coverage.

In late 2011, TIA convened an Engineering Subcommittee to create a new LMR-specific standard for intrinsic safety. That new TIA standard released this month provides the same protection for the same power levels as the older FM standard.

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