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Inside this issue:

ALMR Welcomes New System Manager

Mr. Casey Borg, ALMR System Manager, has taken a management position at Wireless Advance Communications located in Denver, Colorado. Casey departed Alaska at the end of February; his wife Jessica and two daughters, Katarina and Autumn, will follow at the end of the current school year. Casey's also has an adult son, Colton, who lives in Minnesota.

Casey was the System Manager for the past nine years and, prior to that, worked for Motorola® as the ALMR Project Manager from 2004 to 2006. Casey was an invaluable resource and leader throughout the project phase and build out of ALMR, and well into the current full operational status. We wish Casey and his family all the best in their next endeavor.

Mr. Travis Conant has been named as the new System Manager. Travis has been a Senior System Technologist with ALMR for the past three years. His background is in radio telecommunications, satellite telephony and management, making him well suited to assume the duties. He is married to the former Sonya Horton and they have three sons, Dalton, Gavin and Dawson.

(Article by Ms. Sherry Shafer and Mr. Rich Leber, Operations Management Office)

FirstNet Says LMR Networks MUST be Updated, Maintained

The First Responder Network Authority (FirstNet) added a page to its website titled "Mission-Critical Voice and LMR." The page notes that FirstNet will not offer mission-critical voice at launch.

FirstNet's Long Term Evolution (LTE) network will not replace LMR systems. The network is expected to initially transmit data, video and other high-speed features, such as location information and streaming video, as well as non-mission-critical voice. Public-safety entities will continue to use LMR networks for their mission-critical voice needs.

The web site states: "Public-safety entities will continue to rely on their LMR networks for mission-critical voice features — such as priority and pre-emption and one-to-many communications— that are needed in an emergency response setting." In the near term, **public-safety entities will need to maintain and/or upgrade their LMR networks**, as appropriate."

(Article from the 18 March Mission Critical Communications Transmission Weekly News)

CASM Goes Mobile

One of the secure, free tools OEC's technical assistance program makes available to public safety users is the Communications Assets Survey and Mapping (CASM) tool, which allows users to inventory, share and plan usage of emergency communications capabilities.

CASM provides a single database to manage information about public safety agencies, communications assets and personnel, including information about who owns and uses assets, the location of assets and the relevant points of contact. Further, the tool offers a method to find, filter, display, manage, share and report the data, and standardizes information and data relationships nationwide in a common interface for all users.

Recently, OEC launched two new mobile applications (apps) to support CASM: the Public Safety Library (PS Library) Mobile App and the CASM Mobile Finder App.

PS Library is a (article continued on page 3)

Completed ALMR System Site Upgrades

Continuing on from the late 2014 System upgrades, the ALMR System Management Office (SMO) and State of Alaska (SOA) Enterprise Technology Services (ETS) completed installation of a five-channel site on Clear Air Force Station (Anderson area) on March 6. This new site replaces the site formerly located at the AT&T tower location located outside of Anderson.

A fourth channel was added to the Pipeline Hills site on the Kenai Peninsula on February 23.

The Department of Defense (DOD) has also upgraded the Transportable Area South (TAS), Transportable Area North (TAN) and the R1 North site by changing out the Motorola® Quantar™ site radios to new Motorola® GTR8000™ site radios. These upgrades were all completed in late February.

In the near future, the User Council will review System metrics to determine the need for, and priority of, any additional site capacity upgrades. These upgrades would only occur if, and when, funding becomes available.

If you have any recommendations for site capacity upgrades, contact your User Council representative or the Operations Management Office, who can bring it to the attention of the User Council.

(Article by Mr. Rich Leber, Operations Management Office Technical Advisor)

Interference – An Unexpected Tool for Law Enforcement

With the proliferation of indoor marijuana growing operations, the indoor "horticulture" industry has been booming. Chinese manufacturers are turning out indoor growing equipment at a rapid pace with little, or no, regulatory oversight or compliance. Because of this, there has been a significant amount of radio frequency interference (RFI) occurring.

These types of operations need supplemental lighting necessary for photosynthesis. These lights may be fluorescent, LED, and for larger operations, high pressure sodium or metal halide. Some of these lamps require a ballast for proper operation. Originally, ballasts were magnetic, but in the past few years they have become electronic and are now subject to FCC part 18 rules. However, there appears to be a total disregard for the FCC rules.

Many, if not most, electronic ballasts are manufactured in China and may have little 'FCC' stickers on them, but there is no evidence of any compliance testing having been done. Because of this, there is a large amount of RFI with any nearby electronics. A prime example was a grow operation next to a California state fire agency, which caused a continuous hum over the station's callbox speaker and interfered with them receiving radio broadcasts over their station public address system.

This type of RFI has/can cause law enforcement radio receivers to go blank/dumb in and around these grow facilities. As you can imagine, this could present a very dangerous situation with illegal grow operations and law enforcement can't communicate with their dispatch or other officers. Little can be done about it while the AC power is on, but you should be aware of the possibility of it occurring and plan accordingly.

Ham Radio Helpers

Reports have also begun to flood into the National Association for Amateur Radio about interference with their ham radios from neighboring marijuana grows. For obvious reasons, the most complaints have come from California and Colorado. In these locations, many of the ham radio operators began to see a correlation with marijuana grows and the RFI issue.

Many ham operators can locate a growing operation simply by taking a radio and portable antennae out into their neighborhood and using the radio to triangulate the exact location of the grow. One amateur radio operator located five marijuana grows near his house due to RFI alone.

Another industrious ham operator went to his local grow shop and borrowed several lights and ballasts to test for RFI. He found that one light and ballast set up would cause interference up to 700 meters away and from our experience, we know that most indoor grows have more than one light and ballast, which would amplify the RFI.

A Colorado ham radio operator, told a local newspaper, "If I can track this down, anybody can track this down. If I listen long enough, I can tell when they turn the lights off. You can tell exactly when the harvest is."

Pioneering Field Use

In the San Francisco Bay Area, one narcotics officer simply turns his car radio to 560 AM when he checks out potential indoor grows. All seven times he's checked, the car's radio showed significant interference from the ballasts inside of the grow location.

These methods aren't fool proof, but RFI detection can be another useful tool in the law enforcement toolbox.

(Article by Mr. Rich Leber, Technical Advisor, with excerpts taken from an article by Sergeant Keith Graves, San Francisco Bay Area Police)

How Will the FirstNet Network Work with Today's Land Mobile Radio Networks?

Unfortunately, as a result of the hype by some vendors, news coverage and discussions regarding the National Public Safety Broadband Network (NPSBN) known as FirsNet, some may not understand that it will not be a replacement for mission-critical public safety radios (LMR) any time soon. This misunderstanding has led to some funding bodies suggesting that continuing to fund LMR systems is not a necessity. Nothing could be further from the truth. The following information is posted to the FirstNet website and stresses that FirstNet is not intended to replace LMR in the near future.

Will the FirstNet Network Replace the Land Mobile Radio (LMR) Networks Public Safety Uses Today?

When the FirstNet network launches, it will provide mission-critical, high-speed data services, which will supplement the voice capabilities of today's LMR networks. FirstNet users will be able to send and receive data, video, images, and text. They will have a more reliable and faster network for getting access to information public safety needs and relies on to do their jobs. In time, FirstNet plans to offer cellular-quality voice, which can be used for administrative calls and daily public safety voice communication. The FirstNet network won't become a viable replacement for LMR until the availability of mission-critical voice functionality that meets or exceeds the needs of public safety.

When will Mission-Critical Voice be Available for FirstNet Users?

FirstNet can't predict the arrival of mission-critical voice in part because the standards are still under development. The standards work will determine the functionality and performance requirements for mission-critical voice over LTE (VoLTE).

FirstNet is actively involved in the standards-setting process and the industry at large is working to accelerate the development of this new worldwide standard.

What Makes Mission-Critical Voice Different from Cellular-Quality or Commerical-Grade Voice?

Today's LMR networks support push-to-talk, direct mode, and emergency call functionality. Public safety users typically communicate one-to-many instead of one-to-one. If the network fails, they also must be able to communicate with other responders in close proximity, so direct mode is critical. There are also performance requirements for mission-critical voice that address call set-up speed, quality, and reliability. These attributes need to be defined through the standards-setting process.

Will the FirstNet Network Share Sites with LMR Networks?

The FirstNet network will leverage existing infrastructure where it makes engineering and economic sense. Our goal is to keep costs down and reduce the time it takes to build out the new Band Class 14 FirstNet network. Band Class 14 is the portion of spectrum allocated to public safety for operation of the FirstNet nationwide public safety wireless broadband network. Whether FirstNet shares sites with LMR networks will depend on the availability of space to house FirstNet equipment and whether the location proves to be the best option for meeting our network design, coverage, and cost requirements.

Will the FirstNet Connect to LMR Networks?

FirstNet intends to establish interfaces between its network and existing LMR networks. These interfaces will enable voice calls to take place between users on the LTE network and a connected LMR network. The FirstNet core will have a variety of interfaces to other networks, including 9-1-1 centers, the public switched telephone network, and the Internet. States and local agencies can specify during the consultation process where they want FirstNet to interface with their existing LMR networks.

Questions? Contact FirstNet at info@firstnet.gov or (202) 482-4646 / www.firstnet.gov

(Article by Mr. Del Smith as extracted from the FirstNet web site www.firstnet.gov.)

CASM Goes Mobile (continued)

cloud-based service providing access to a variety of public safety reference resources, including Statewide Communication Interoperability Plans, Tactical Interoperable Communications Plans, Field Operations Guides and Standard Operating Procedures. Users can remotely store and access the latest version of public safety materials, upload and download files in a variety of formats, password protect files and receive notifications when newer versions of files are published.

The Mobile Finder App enables users to locate mobile assets in the field and access the latest information for gateways, radio caches and mobile communications units. The app's advanced features improve public safety incident response and interoperability planning with map and location-based capabilities such as device tracking, location sharing and geographic terrain and landmark information.

Both apps are available for Android and Apple devices.

To learn more about CASM, PS Library and the Mobile Finder app, visit OEC's Public Safety Tools Website at www.publicsafetytools.info.

(Extracted from Homeland Security OEC Emergency Communications Forum, Volume 15, Spring 2015)

NPSTC Addresses Interoperability Best Practices

The National Public Safety Telecommunications Council's (NPSTC) Radio Interoperability Best Practices Working Group, led by Mark Schroeder, formerly with the Phoenix Fire Department, is working to finalize two best practices related to radio programming when used at the scene of large-scale incidents.

The group drafted a total of 12 best practice statements using a standard template that records the best practice statement, a statement of importance, an incident use case, a supporting element and how it relates to the Interoperability Continuum regarding standard operating procedures (SOPs), governance, technology, training/exercise and usage.

Best practice No. 1 deals with use of common channel names and other technical information to ensure all first responders can easily access necessary communications frequencies in emergencies. It is based on reports of problems in which public safety responders could not access an interoperability channel because the common channel was programmed using different channel names.

Best practice No. 2 deals with programming radio equipment used by public safety personnel in high risk environments and calls for radio programming to be tested and verified prior to use. It also calls for all operational radio channels to be included in the first responder's radio with the same channel position, name and technical specifications. It is based on after action reports where radio programming errors contributed to, or caused, communications failures.

Once each best practice is completed, the full Interoperability Committee will review it before forwarding it to the NPSTC governing board for approval. The best practices will then be published on the NPSTC web site.

(Article by Mr. Del Smith, Operations Manager, as extracted from Mission Critical Magazine, March 2015)

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Annual Subscriber Inventory

The annual subscriber inventory is currently in progress. Agencies must verify their radios operating on the ALMR System to meet the Legislative requirement from the 2012-2013 audit. Confirmation forms are due to the OMO not later than 30 April. Agencies should also look for FY16 Membership Agreements to be distributed for signature starting in mid May. (Article by Ms. Sherry Shafer, OMO Documentation Specialist)

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