



# **Alaska Land Mobile Radio Communications System**

## **User Council 2008 Annual Assessment on System Operations and Management Performance**

February 23, 2009

## **1.0 Introduction**

Per the Alaska Land Mobile Radio (ALMR) Communications System Cooperative Agreement, Article 8 - User Council, Section 16.2, Performance Monitoring.

The User Council will monitor and evaluate the performance of the System, including the efficiency and effectiveness of its operation and management, as well as the performance of contracts and user agreements. The User Council will report to the Executive Council their assessment of the operational health of the System annually, or as requested by the Executive Council.

This report provides a high-level overview of ALMR System performance monitoring by the UC and their oversight of the day-to-day Operations and System Management functions.

## **2.0 Membership**

At the beginning of 2008, there were 56 agencies operating on ALMR; at the end of the year there were 76 agencies. Final Membership Agreements have been signed by 60 of the total agencies on ALMR and coordination efforts continue to obtain Membership Agreements for all remaining agencies.

## **3.0 Metrics**

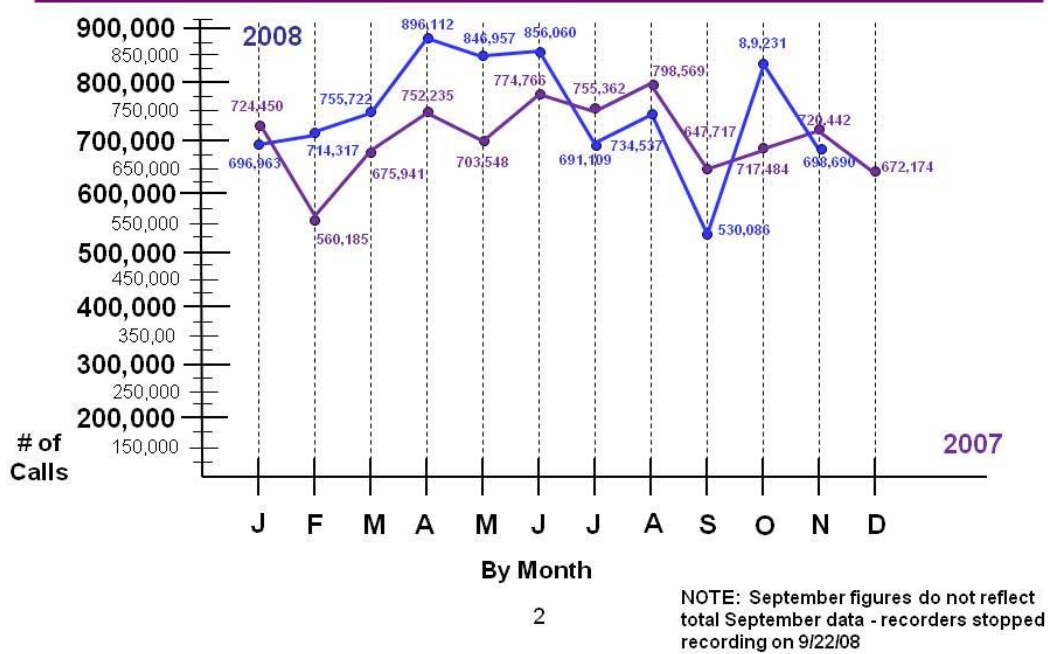
The User Council (UC) is responsible for monitoring System performance and track various parameters including busies and voice calls per month in order to note any trends which may indicate System deficiencies. To accomplish this, they employ the Operations Management Office (OMO) to provide periodic reports. The OMO presents metrics at the monthly UC meeting.

The UC has also established a baseline to identify day-to-day and emergency operations standards with respect to System busies by site for both percentage and duration. Although individual sites may occasionally exceed these standards, overall System performance is still well below the standard. The UC requested that the OMO continue to provide monthly statistics to determine whether those sites exceeding the

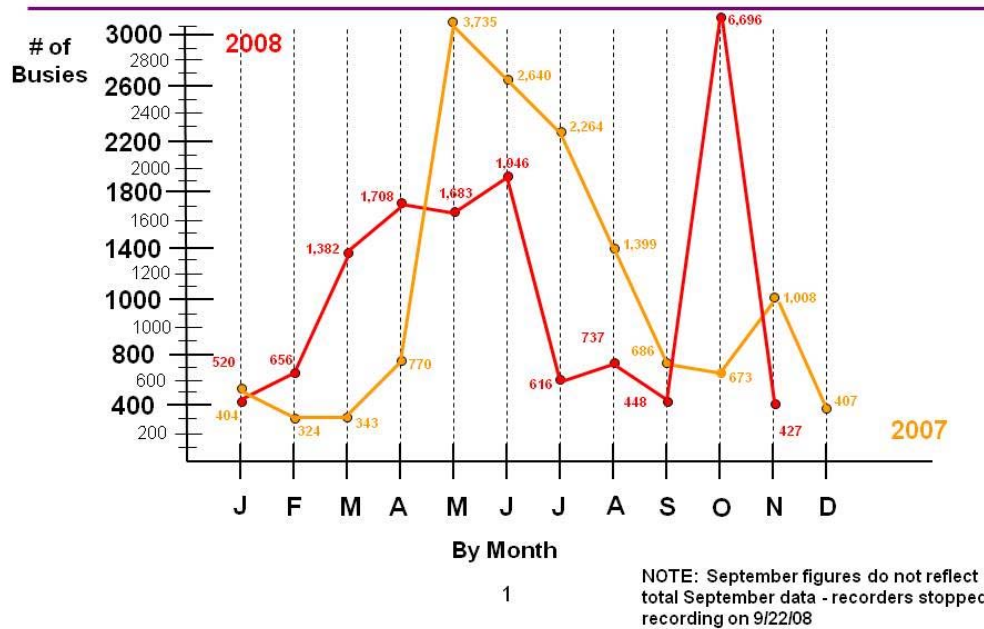
standards were experiencing excessive traffic due to specific events/exercises/seasonal increases, or whether there was insufficient channel capacity in the original site design. This data is still being examined by the UC for long-term trend analysis.

The following charts examine total numbers of System voice calls and busies per month. In order to identify any overall System trends, a comparison of the current year (2008) data was made to the previous year (2007).

## System Performance - Voice



## System Performance - Busies



**NOTE:** For 2007, the spike in System busies in May correlated with exercise Northern Edge/Vigilant Shield. For 2008, the spike in System busies in October was caused by a failure of the System to assign channels from the Atwood site, and a concurrent exercise on Elmendorf Air Force Base.

### 4.0 De-confliction

At build out, many sites had de-confliction issues due to the fact that the State of Alaska (SOA) was still operating their conventional frequencies. This meant some of the channels for ALMR could not be turned on.

SOA continued to work diligently to correct frequency conflicts during the past year. Conflicts at the following sites/agencies were corrected in 2008.

- Alcantra
- Bailey Hill
- Birch Hill
- Cooper Mountain
- Ester Dome
- Fairbanks International Airport (FAI)
- Fairbanks Youth Facility (FYF)

Fire Station 12 (Anchorage)  
Hope  
Quarry Hill

## **5.0 Build out**

The original designed ALMR System will support 105 sites. Equipment ownership at the sites is broken down as follows: US Army Alaska – 45; Elmendorf – 1; Eielson – 3; Clear – 1; MOA – 15; and SOA – 40. There are currently 85 operational sites. All Department of Defense sites are complete; the State of Alaska continues to work to complete their site build out.

- Sites completed in 2008
  - Skagway
  - Honolulu
- Sites to be completed in 2009
  - High Mountain
  - Haines

## **6.0 System Coverage Issues**

ALMR was built to provide full coverage along the main roadway system.

During 2008, coverage issues were reported within the ALMR area which affected day-to-day operations of some of the agencies operating on the System. These issues were researched by the OMO and follow-up actions were initiated.

- Delta Junction  
Delta area agencies have advised the OMO that ALMR coverage is not satisfactory. OMO has requested that Motorola determine if coverage in the area has been detrimentally affected by the relocation of the former Donnelly Dome site to Ft. Greely and/or the addition of a cellular antenna array to the Ft. Greely tower subsequent to the relocation has affected coverage. Response from Motorola is pending.
- North Pole  
ALMR was designed to provide 95% mobile radio coverage on the road system. DOD and SOA built out and implemented sites to provide the coverage required in the design criteria. At the time of the System design, it was determined that a site was not required in the North Pole area as the coverage met the design

requirements for mobiles. However, it appears portables may occasionally have difficulty in North Pole depending on their location. DOD completed the sites necessary for their coverage requirements and SOA is finishing their build out to meet their needs around the state. A System Design/System Analysis was completed at the request of Fairbanks North Star Borough and local public safety agencies regarding the potential for an additional site. The System Design & Implementation Document was published in March 2008. Several options for funding North Pole are being considered.

## **7.0 On-going Projects**

Since declaration of sustained Operations & Maintenance (O&M), the need for certain System modifications/updates was noted. Some of these modifications were requested by agencies on the System, some were in response to the need for increased coverage/capacity, and some were required to comply with deficiencies noted during the Department of Defense Information Assurance and Accreditation Process (DIACAP). The following list summarizes those modifications/updates for 2008.

- **Clear In-Building**  
A survey of in-building coverage was conducted at Clear Air Force Station in 2008. Based on that survey, in-building amplification was required in the dining hall and the main radar building. The equipment was procured and installed in these buildings in October and November 2008, and is operational.
- **MotoBridge<sup>®</sup>**  
Eighteen of the 30 planned sites were “cold installed” in October 2008 without power or connectivity back to the main server. Installation of the remaining sites will begin late in the first quarter 2009, as weather to install exterior antennas permits. The State of Alaska is providing and upgrading the circuits for the MotoBridge<sup>®</sup> System. To date, connections at four of the planned sites have been upgraded. The goal is to complete this process for all sites by the end of the first quarter so only one stop is needed to complete the installation and connect the equipment. The Project Office will also be working to finalize any Memorandums of Understanding and to verify frequencies and establish frequency sharing agreements during the first quarter of 2009.
- **Birch Hill Fire Suppression/ Humidity Control**  
To comply with Information Assurance requirements, an automated humidification/dehumidification capability that keeps the humidity in the zone

controller room within manufacturer specifications must be present. The design of this system began in 2008 and continued with the installation of the equipment in January 2009. Permits are being processed to connect power from the pole to the equipment. Agreements/procedures for hauling distilled water/removing wastewater are still being developed. The equipment will be operational as soon as power is connected in the first quarter of 2009.

- **Site Summit capacity**

In response to a large number of busies at the Willow Creek site, a study was conducted in 2008 to examine possible alternatives for increasing channel capacity. The alternative chosen was to add three additional channels to Site Summit. The channels were installed in October 2008, but additional equipment was required. The new equipment has been received and is scheduled to be installed by the end of January 2009.

## **8.0 Contractor Performance**

The UC is responsible for reviewing and approving the OMO auditing and control policies and procedures to provide accountability, compliance, monitoring and performance assessment of the System. In order to comply with this requirement, the OMO must develop critical System operational documents (policies, procedures, plans, processes, and protocols), which address all areas regarding management, security, protection, and physical safety of the System, including its personnel and all assets.

The OMO provides guidance and oversight to the SMO who has inherent responsibilities for the same areas. Some critical plan documents previously existed that were written during the Project Phase. These were based on what the System was perceived to be at that time. Those documents were revised to reflect the actual System as implemented; additional documents were written to encompass operational areas not in existence at that time. The current status for 2008 is:

- 64 Written/rewritten
- 31 Approved by the UC

## **9.0 Periodic Maintenance Inspections (PMIs)**

The OMO provides Quality Assurance oversight of PMIs conducted on ALMR sites on behalf of the UC. This process ensures the sites are maintained to a standard in accordance with the Service Level Agreement (SLA) and identifies discrepancies that could affect site performance. During the months of February to September,

approximately two PMIs per month are observed by the OMO depending on accessibility to the sites due to weather conditions. The SMO, in coordination with SOA, provides the OMO with the annual PMI inspection schedule. A total of 13 sites were inspected in 2008.

The May and August PMIs which were scheduled to be performed on helo sites were cancelled due to the helicopter crash in mid-April. One of the September inspections for Site Summit was postponed based on the DOD client's request and the scheduled addition of channel capacity at the site; the other site was a helo site and was cancelled.

## **10.0 System Enhancements**

Periodically, the System will need to be upgraded to meet current LMR standards or security measures. During 2008, the System was upgraded to come into compliance with changing DOD Information Assurance (IA) standards.

- 7.1.1 Upgrade
  - Updated operating system/network configurations to better align the security posture of ALMR with industry standards
  - Updated Dispatch Console Software
  - Updated Operating System software on select core components
  - Updated network monitoring clients on all supported devices

## **11.0 Supported Events**

Many venues exist that allow the UC to further interoperability throughout the State, as well as, keeping up to date on current national standards. The UC utilizes the OMO staff to contact member agencies, prospective member agencies, legislators, media, and other interested groups to disseminate information about ALMR.

- Exercises/Transportable Deployments
  - Soldotna
  - Camp Mad Bull
  - Alcantra
- Outreach
  - International Wireless Communications Expo
  - Seldovia
  - Juneau PD



- Whitehorse
- Spenard Rotary
- Alaska Council on Emergency Medical Services
- Disaster Response Seminar – University of Alaska
  
- Training
  - Kulis ANG
  - Rural Deltana
  - Bear Creek
  - DNR Division of Forestry
  - US Army Corps of Engineers – Alaska District
  - DNR Parks and Outdoor Recreation
  - Elmendorf AFB
  - Alaska Army National Guard
  - Mat-Su Borough
  
- Insider newsletter – produced quarterly

## **12.0 Finance/Budget**

In accordance with the Cooperative Agreement, the UC will establish a budget process and each year develop a proposed budget for the next federal fiscal year to meet the operating, maintenance and capital replacement needs of the System and shall submit the proposed next year's budget to the Executive Council. All proposed expenditures and activities of the System, as well as all agency and funding of the System, shall be reflected in the proposed budget. The UC approved draft FY2010 Operating Budget was presented to the EC on August 21, 2008.

## **13.0 Other Issues**

Not all areas requiring oversight were previously identified in this report. Additional areas not covered, but currently being monitored:

- Outstanding Maintenance
  - Discrepancies noted during PMI QA evaluations are noted and photos are taken of the area of non-compliance. After completion of the PMI, the OMO generates a report of the findings and tracks discrepancies to completion. Delays in addressing R56 grounding at sites continue to be a major concern. Outstanding maintenance issues are briefed at the monthly UC meeting.

- **Connectivity**  
State of Alaska Telecommunications System (SATS) connectivity continues to be an on-going issue for some of the ALMR sites. The SOA is continuing to work on long-term solutions to address these issues. SOA issues are briefed at the monthly UC meeting.

## **14.0 Conclusion**

This report addresses the status of various issues regarding the operation and management of the ALMR System and any outstanding items noted during the year.

The efficiency and effectiveness of the OMO and SMO in performance of their contract functions meet the expectations of the User Council.

Areas of concern that continue to be tracked by the OMO include a consolidated Cost Share Agreement leading up to approval and implementation of the Operating Budget, and the award of a contract by SOA to address outstanding maintenance discrepancies noted during the PMIs.