Alaska Land Mobile Radio Communications System

Operations Management Office (OMO) High Level Strategy

Version 12

November 7, 2019

Table of Contents

Document Revision History

Name	Date	Reason for Changes	Version
Rich Leber	12/13/06	Formalize and populate document	1
Shafer, Sherry	9/23/08	Approved by User Council	2
Shafer, Sherry	10/30/09	Annual review/update. Approved by the User Council – Final.	3
Shafer, Sherry	11/15/10	Annual review/update. Approved by the User Council - final.	4
Shafer, Sherry	12/24/2012	Annual review. Approved by the User Council - final.	5
Shafer, Sherry	11/13/2013	Annual review/update; approved by the Operations Management Office.	6
Shafer, Sherry	11/14/2014	Annual review/update; approved by the Operations Management Office.	7
Shafer, Sherry	11/9/2015	Annual review/update; approved by the Operations Management Office.	8
Shafer, Sherry	11/2/2016	Annual review/update; approved by the Operations Management Office.	9
Shafer, Sherry	11/14/2017	Annual review/update. Approved by the User Council - final.	10
Shafer, Sherry	11/8/2018	Annual review/update; approved by the Operations Management Office.	11
Shafer, Sherry	11/7/2019	Annual review/update; approved by the Operations Management Office.	12

Acronyms and Definitions

Alaska Federal Executive Association (AFEA): federal government entities, agencies and organizations, other than the Department of Defense, that operate on the shared ALMR system infrastructure.

Alaska Land Mobile Radio (ALMR) Communications System: the ALMR Communications System, which uses but is separate from the Alaska Public Safety Communications Service (APSCS), as established in the Cooperative and Mutual Aid Agreement.

Alaska Municipal League: a voluntary non-profit organization in Alaska that represents member local governments.

Alaska Public Safety Communication Service: the State of Alaska statewide telecommunications system microwave network.

Alaska Public Safety Information Network (APSIN): provides Public Safety information to multi-jurisdictional agencies across the State. The APSIN database includes the National Crime Information Center (NCIC) data to facilitate rapid identification of criminals.

APCO Project 25 (P25): is a set of standards produced through the joint efforts of the Association of Public Safety Communications Officials International (APCO), the National Association of State Telecommunications Directors (NASTD), selected Federal Agencies and the National Communications System (NCS), and standardized under the Telecommunications Industry Association (TIA) The P25 suite of standards involves digital Land Mobile Radio (LMR) services for local, state/provincial and national (federal) public safety organizations and agencies.

Cooperative and Mutual Aid Agreement: the instrument that establishes ALMR and sets out the terms and conditions by which the system will be governed, managed, operated and modified by the Parties signing the Agreement.

Department of Administration (DOA): a State of Alaska (SOA) department that maintains the SOA Telecommunication System (SATS) and provides information technology (IT) and communications technical support to state agencies.

Department of Defense – Alaska: Alaskan Command, US Air Force and US Army component services operating under United States Pacific Command and United States Northern Command.

Encryption: the process of coding data so that a specific code or key is required to restore the original data, used to make transmissions secure from unauthorized reception

Executive Council: the ALMR Executive Council which is made up of three voting members and two associate members representing the original four constituency groups: the State of Alaska, the Department of Defense, Federal Non-DOD agencies (represented by the Alaska Federal Executive Association), and local municipal/government (represented by the Alaska Municipal League and the Municipality of Anchorage).

Interoperable Communications: the ability of public safety, including emergency and other first responders, to talk to one another via radio and other communication systems, and to exchange voice and/or data with one another on demand in real time.

Member: a public safety agency including, but not limited to, a general government agency (local, state or federal), its authorized employees and personnel (paid or volunteer), and its service provider, participating in and using the System under a Membership Agreement.

Municipality of Anchorage (MOA): the MOA covers 1,951 square miles with a population of over 300,000. The MOA stretches from Portage, at the southern border, to the Knik River at the northern border, and encompasses the communities of Girdwood, Indian, Anchorage, Eagle River, Chugiak/Birchwood, and the native village of Eklutna.

Operations Manager: the Operations Manager represents the User Council interests and makes decisions on issues related to the day-to-day operation of the system and any urgent or emergency system operational or repair decisions. In coordination with the User Council, the Operations Manager establishes policies, procedures, contracts, organizations, and agreements that provide the service levels as defined in the ALMR Service Level Agreement.

Protocol: a standard that governs network communications by providing a set of rules for its operation.

Service Level Agreement (SLA): outlines the operations and maintenance services as required by the User Council membership for the sustainment and operation of the ALMR infrastructure. The performance metrics contained in the SLA describes the maintenance standards for the ALMR system infrastructure. ALMR cost share services are also outlined in the SLA.

State of Alaska (SOA): the primary maintainer of the states' microwave system, and shared owner of the System.

System Management Office (SMO): the team of specialists responsible for management of maintenance and operations of the System.

Talk group: the electronic equivalent of a channel on a trunked system; a unique group of radio Users that can communicate with each other.

User: an agency, person, group, organization or other entity which has an existing written Membership Agreement with one of the Parties to the Agreement. The terms user and member are synonymous and interchangeable.

User Council: the User Council is responsible for recommending all operational and maintenance decisions affecting the System. Under the direction and supervision of the Executive Council, the User Council has the responsibility for management oversight and operation of the System. The User Council oversees the development of System operations plans, procedures and policies under the direction and guidance of the Executive Council.

1.0 Introduction

1.1 Executive Summary

The continued existence of the Alaska Land Mobile Radio (ALMR) Communications System not only depends upon the state-of-the-art infrastructure built and implemented by the Department of Defense (DOD) and the State of Alaska (SOA), but also on the strategic, operations and maintenance decisions made by the ALMR Executive and User Councils. To ensure ALMR continues on the road of interoperability success, it is essential the High Level Strategy address the challenges facing ALMR. The strategy must always recognize and capitalize on the distinctive strengths and contributions of all the ALMR stakeholders and explore new avenues for future operations.

1.2 Background

Communication has been, and will continue to be, an essential aspect of day-to-day operations with emergency response organizations. Without effective communications, internally and externally, it is difficult, if not impossible, to efficiently manage and deploy first responder assets where and when they are needed.

Throughout the past, Federal, State and local first responders in Alaska had traditionally operated either on their own conventional radio systems or the State of Alaska's conventional system for their day-to-day operations. This worked sufficiently until an incident occurred, which required multiple disciplines and jurisdictions to respond in a coordinated effort. Like the numerous examples around the country of interoperable communication difficulties during multiple agency responses, Alaska had its own share.

The Miller's Reach fire near Wasilla in June 1996 brought home the point to Alaska's first responders and others that communications interoperability needed to be addressed immediately. More recently, the 2013 Stuart Creek 2 fire near Chena Hot Springs demonstrated the need to address those areas outside the current ALMR coverage footprint; this remains an important issue to address.

Because any solution clearly involves more than just acquiring new communications equipment, complicated issues such as cost share, governance, maintenance and operations have to be highlighted.

To address Alaska's interoperability needs, agencies from all levels of government took the initiative to champion and implement the ALMR System, which to this day, and into the foreseeable future, will provide a technology solution allowing agencies to conduct day-to-day operations on a shared

infrastructure platform, but independent of each other. Then, when the need arises, they have the ability to interoperate seamlessly with other agencies or disciplines.

The ALMR Executive Council made multi-agency, multi-jurisdictional interoperable communications a top priority. They decreed, via policy directive, that both regional and statewide Incident Command Structure (ICS) talk groups are to be programmed in all radios operating on ALMR, to the greatest extent possible.

The advantage to this approach is that when required, ALMR radio users can transition to the pre-programmed talkgroups for multi-agency responses using the same communications equipment and protocols as they use when called upon to respond to local emergencies on a daily basis.

From its initial concept, ALMR was designed to:

- Create a cost-sharing partnership across Federal, State, tribal and local jurisdictions
- Enhance first responder personnel safety and operational capabilities
- Provide backwards compatibility with existing disparate systems
- Share infrastructure costs by utilizing existing resources and assets
- Support Homeland Security initiatives
- Operate at Level 5 of the SAFECOM Continuum
- Develop and maintain a fiscally sound business model for the implementation, operation and maintenance of the System

ALMR is a secure, digital, interoperable, trunked radio system that combines Federal, State and local resources in a single, standards-based infrastructure. It supports public safety first responders, as well as the Department of Defense (DOD) and Federal Non-DOD consequence management, law enforcement and critical infrastructure protection functions.

The major elements of ALMR must include an effective governance structure, standard technology (Project 25), cooperative management utilizing a shared spectrum plan containing both State and Federal resources, outreach and training for member agencies and conducting exercises utilizing the National Incident Management System (NIMS).

Key to the ALMR approach is the *Four Pillars of Implementation.* The foundation behind the implementation pillars is to define, implement and train to standardized techniques, procedures, processes and protocols, which allow for successful use of the ALMR System for both day-to-day and emergency operations.

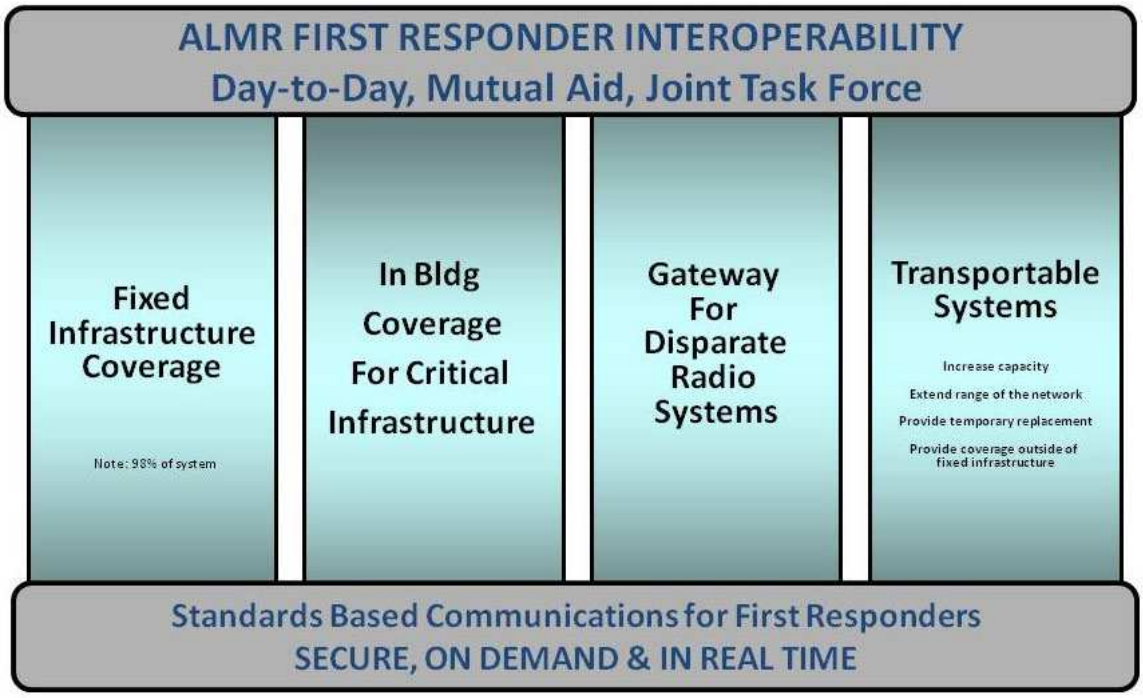

Figure 1. Four Pillars of Implementation

The first pillar includes providing a fixed communications infrastructure across the State. At this time, there are 85 fixed sites covering the majority of the Alaska Highway System and portions of the Alaska Marine Highway.

The second pillar addresses coverage within facilities identified as critical infrastructure, such as hospitals and government offices. ALMR uses bi-directional amplifiers (BDAs) to provide communications coverage within Ted Stevens Anchorage International Airport and through the three-mile Anton Anderson Memorial Tunnel, which traverses the mountain from Portage to Whittier. In-building coverage solutions were also implemented within several buildings on Joint Base Elmendorf-Richardson (JBER), Eielson Air Force Base, Fort Wainwright, Clear Air Force Station and Fort Greely and in the Boney Courthouse in Anchorage.

The third pillar provides for communications gateways, which allow agencies with disparate radio systems to still be able to interoperate with agencies on ALMR. A gateway solution was put in place at several locations within Alaska, which further enhanced interoperability. When fully utilized, gateways can also enable secure communications without changing or exchanging secure keys, which is extremely important in emergencies.

The fourth pillar provides for a transportable coverage capability in areas outside the range of the fixed infrastructure, to increase capacity during an

emergency/event, or to provide temporary communications for a site where communications are down. The DOD-owned transportable communications systems provide advanced dispatch, communications and satellite connectivity to bring communications capabilities to/from remote locations. This is crucial should a disaster or emergency, such as a wildfire or a plane crash, happen outside the range of fixed infrastructure. Control of these assets falls under the Alaskan Command (ALCOM).

1.3 Governance Structure

As emphasized in the National Task Force on Interoperability (NTFI), February 2003 report, a successful interoperability plan requires leadership participation on several levels, such as an executive champion at the State level (the Governor or Commissioner of Public Safety), as well as a dedicated resource to drive the planning process. In Alaska, local agencies are also some of the principal users of the system; therefore, they were involved from System inception through implementation.

Likewise, the purpose of creating any governance structure is to ensure that key stakeholders have an on-going role in the planning, design, implementation and maintenance of the communications interoperability system.

Historically, case examples illustrate that by enrolling a majority of user representatives on the leadership team, trust is established at the local level that, in turn, eases barriers to cooperation and implementation. Governance structures that incorporate a participatory, all-inclusive and user-driven approach toward decision-making find success in the implementation phase of a shared system.

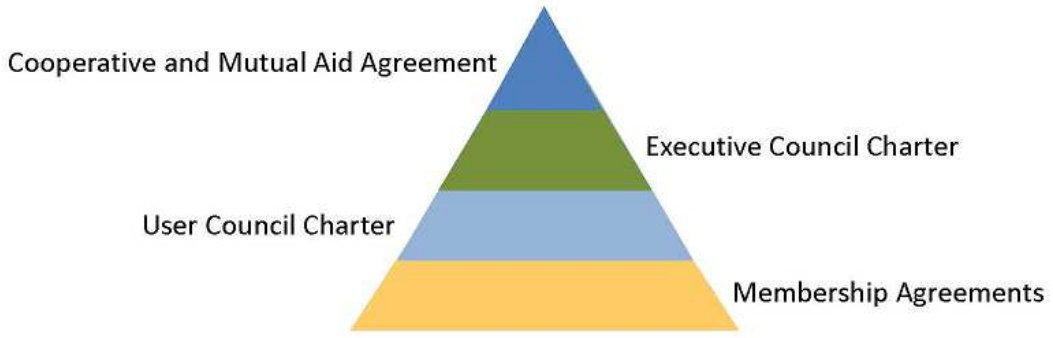

Figure 2. Governance Document Hierarchy

1.3.1 Executive Council

In Alaska, the Executive Council (EC) was formed as the governance body responsible for developing a set of system requirements, as well as a migration plan from previous conventional communications systems to a shared, trunked radio system. One such requirement involved developing a system capable of handling disaster response and crisis management, in addition to supporting day-to-day operational use. This system also needed to have the ability to transition seamlessly to a full-featured, on-demand and in-real-time interoperable system for public safety first responders.

The EC identified their stakeholders as the DOD, Federal Non-DOD, State, tribal and local government and volunteer agencies. To meet their goals, the EC decided upon a cost-shared, Project 25/TIA-102, trunked land mobile radio communications system. Based on an assessment that incorporated the diverse needs of its stakeholders, the EC was able to move forward with the implementation of a new system with the support of DOD, Non-DOD Federal, State of Alaska, and local community executives.

1.3.2 User Council

The User Council (UC), established by the Cooperative Agreement in 2007, is responsible for making all operations and maintenance decisions affecting the System, including those governing day-to-day operations. During the implementation phase of the System build out, the UC directed oversight of operations, maintenance and management of the System through the Project Management Office (PMO). Today, the UC also remains responsible for providing recommendations, through their annual report to the Executive Council regarding approval of all proposed modifications to System design, modifications to performance standards extensions and expansions of the System and addition of new users to the System.

1.3.3 Operations Management Office

The Operations Management Office (OMO) function is to conduct the day-to-day operational management of the System on behalf of the stakeholders in coordination and cooperation with the System Management Office (SMO). The primary goal of the OMO is to ensure a reliable, safe and secure System is available to users at all times.

The OMO works with the EC and stakeholders, and at the direction of the UC, acts as the single point of contact for all ALMR-related issues and requests.

2.0 Resources

The following staffing requirements are necessary for the Operations Management Office. The OMO currently is staffed by:

- Operations Manager
- Documentation Specialist

NOTE: Staffing levels for the SMO are addressed in the SMO Customer Support Plan.

3.0 Goals

Strategic planning is the process of comprehensive, integrative program planning that considers the future of current decisions, overall policy, organizational development and their links to operational plans, at a minimum.

The purpose of this document is to determine the how, when and where ALMR will be going over the System lifetime. This document is not intended to be all-inclusive, but is fluid and will evolve as conditions and improved management, control processes and procedures dictate.

In June 2006, the ALMR PMO was charged with identifying existing standard processes and procedures and the gaps that needed to be addressed. The OMO utilized this information to identify additional areas where improvement, efficiency and cost savings could be facilitated as the System transitioned to fully operational status July 1, 2008 and the PMO stood down.

3.1 Foster Innovation and Creativity

Creative thinking leads to new ways of dealing with existing or newly emerging technological, operational, and personnel issues. Actions required by the OMO to foster innovation and creative thinking are:

- Create an environment that promotes open discussion
- Hold frequent staff meetings
- Listen to staff and stakeholder thoughts and ideas
- Establish internal working groups to discuss issues and promote creative thinking
- Ensure staff and stakeholders have up-to-date information on new technologies
- Encourage stakeholder input on improving existing policies and procedures and the creation of new ones, as needed

- Encourage research on other statewide interoperable communications systems and their technology, policies, processes and procedures

3.2 Institutional Excellence

To strive for Management and Institutional Excellence, the OMO must:

- Promote the current ALMR Help Desk function to the stakeholders and make it the single point of contact for any/all maintenance requests, problem tracking, monitoring and resolution
- Review and update policies and procedures and ensure that they are communicated to the stakeholder community
- Review and update a communications strategy that meets the needs of the stakeholders
- Review and update the Business Case
- Review and update the Customer Support Plan
- Develop an annual budget
- Serve as corporate secretary for the documentation process
- Review organizational structure and update staffing requirements
- Review and address stakeholder requirements, when needed
- Respond to emergency requests and document actions

3.3 Leadership

In order to demonstrate leadership in all areas of day-to-day management responsibilities, the OMO must:

- Attend the Executive Council and User Council meetings and promote the available services and resources
- Attend all in-house meetings to promote the available services/resources and to stay abreast of actions transpiring within the organization
- Ensure the staff is professional and aware of management expectations

3.4 Stakeholder Service

Stakeholders have a vested interest in all aspects of the System. Therefore the OMO must:

- Provide the best possible service to ALMR stakeholders
- Be proactive, wherever possible, to keep the stakeholders informed and engaged
- Ensure System maintenance is performed to the level required by the Service Level Agreement, to the greatest extent possible
- Treat all stakeholder interactions with respect and efficiency

- Ensure that priority issues are handled correctly and on time
- Develop and oversee lost and stolen asset reporting procedures

3.5 Foster Partnerships

The OMO will collaborate with Federal, State, local government, volunteer and tribal agencies to foster partnerships which:

- Promote the OMO to the EC, UC and stakeholders, whenever possible
- Form stakeholder work groups from all regions to work on issues relating to the field
- Provide the stakeholders with informational materials, as they become available
- Promote the ALMR System to potential new partners

3.6 Technical Expertise

In order to promote technical expertise and ensure information sharing with public and private stakeholders, the OMO shall:

- Establish and maintain a newsletter
- Disseminate pertinent information through social media
- Provide an integrated and user-friendly ALMR portal for public access and communication
- Establish a publication approval process

3.7 Enhance ALMR

To enhance ALMR engineering, maintenance, management and technology processes to increase performance and reduce costs, the OMO must:

- Review and update a new technology review and selection process
- Review and update a new site development process
- Review, update, and manage a maintenance coordination plan, which encompasses both the SOA and contract maintenance assets

3.8 System Reliability

To ensure the ALMR System is reliable, safe, secure and available 24/7, the OMO will:

- Develop a security audit plan and schedule
- Review/update employee termination policy
- Review/update password management policies and procedures

- Develop a stakeholder security awareness procedure
- Review/update intrusion reporting policies and procedures
- Review/update implemented virus protection policies and procedures
- Observe and validate subscriber equipment testing for operation on the system
- Ensure that ALMR security policies and procedures are in sync with Alaska Public Safety Information Network (APSIN) requirements
- Review/update established disaster contingency procedures
- Ensure testing of disaster contingency procedures
- Review/update a user security awareness procedure
- Ensure that maintenance policies are in place, and adhered too
- Ensure all stakeholders/member agencies adhere to the policies and procedures within the Cooperative and Mutual Aid, Service Level and Membership Agreements
- Facilitate ALMR System interoperability exercises, when funded, to ensure that stakeholders are aware of, and use, the Incident Command Structure protocol

3.9 Outreach and Education

To promote education on all equipment and systems within the ALMR structure, the OMO shall:

- Ensure that training resources are available to those agencies that request them, as it is beneficial that all stakeholders are proficient in the understanding and use of the ALMR System and the protocols utilized
- Establish a resource library for both internal and stakeholder use
- Provide training materials, when requested
- Ensure that outreach training and education resources are available to stakeholders, when funds are available
- Ensure that OMO stays abreast of any/all technology advances that could enhance the System
- Ensure that stakeholders are aware of SOA training opportunities, when available

3.10 Cost Share Consensus

To ensure that a cost share cooperative agreement was developed, the OMO:

- Worked with the EC, UC and stakeholders to develop a fair and equitable cost share model
- Worked with the EC, UC and stakeholders to execute a Cost Share Agreement

3.11 Operations Services

OMO workforce acquisition and development is accomplished through:

- Promotion of diversity
- Discuss issues and promote creative thinking
- Conduct frequent staff meetings

3.12 Institutional Control

The OMO monitors and provides oversight of institutional asset inventory controls through:

- Ensuring System equipment lifecycles are within manufacturers guidelines

3.13 Information Management

The OMO records/information management function must:

- Establish administrative procedures and processes
- Establish a Records Management program that makes information available internally and to the stakeholder community
- Establish change management policies and procedures

3.14 Risk Management

To identify associated risks and mitigation procedures, the OMO must:

- Establish a risk identification process
- Define magnitude and impact for identified risks
- Develop risk avoidance and mitigation strategies
- Establish a watch list that ranks and prioritizes identified risks
- Review the watch list

4.0 Methodology

4.1 Strategic Planning Approach

The overall strategic planning framework described in this document reflects discussions and ideas regarding how to create a dynamic operations management approach for all ALMR operations/functions. This document builds on the mission, vision, strategy, values and strategic goals of ALMR and all of its

stakeholders. Mandates, environmental factors, challenges, opportunities and strategic issues identified, to date, by stakeholders have all been considered in the preparation of this document. This document presents information on the following subjects:

- Operations
- Maintenance
- Finance and budget
- Quality control
- Administrative activities

4.2 Certification

Certification is achieved by acceptance of the High Level Strategy by the User Council. As noted, adjustments to the document will be made during annual reviews, or as needed.

5.0 Key Principles

5.1 Mission Statement

Manage the shared ALMR System by supporting the collaborative partnership between public safety first responders serving the citizens of Alaska and provide secure, reliable, 24/7 operational communications by utilizing the latest proven land mobile radio (LMR) technologies.

5.2 Vision Statement

Provide Alaskan public safety first responders with interoperable communications that are cost effective, reliable and adhere to national standards for public safety land mobile radio.

5.3 Guiding Values

In all functions, the OMO will:

- Be accountable for actions, and exercise responsible stewardship
- Value excellence, quality and service
- Foster diverse thinking, be inclusive, treat each other with respect and dignity and promote interaction with all ALMR partners/stakeholders
- Be cognizant in encumbrance and expenditure of public funds

6.0 Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis

An important step in responding strategically and effectively to the rapidly changing environment facing ALMR is developing an understanding of the external and internal context within which it operates. This involves an analysis of the strengths, weaknesses, opportunities and threats (SWOT) facing ALMR.

This list is by no means all inclusive, but provides a starting point for the on-going development and refinement of the strategic planning framework.

6.1 Strengths

Perceived/known strengths for ALMR are:

- Statewide presence (along the road system and marine highway)
- Interoperability provided to public safety first responders
- Incident command structure zones programmed in the radios
- Project 25 standards-based system allowing multiple vendors
- Newest trunked system technology available
- Growing number of ALMR users; quality Federal, State and contractor involvement and operational functionality
- Seamless interoperability for users, over previous conventional stovepipe type radio systems
- Geographically separated ALMR transportable units capable of establishing communications anywhere in the event of catastrophic disaster (through contracted maintenance)
- Continued evaluation and consideration of expansion of coverage along the Alaska highway system; planned future expansion of the System in Southeast Alaska
- In-building and tunnel communications
- Strong governance structure

6.2 Weaknesses

Perceived/known weaknesses for ALMR are:

- Harsh Alaskan environment; inability to travel via roadways to some of the remote mountain sites
- Limited numbers of trunked channels once outside of the major municipalities

- Technology refreshes, if not performed on a regular basis, expose the ALMR System to risk and raises concerns with compliance requirements regarding Defense Information Assurance Risk Management Framework
- Yearly funding issues caused by a complex budget situation, involving overlap of multiple fiscal years, and lack of funding sources

6.3 Opportunities

Perceived/known opportunities for ALMR are:

- Ability to accommodate new user agencies
- Cost savings over previous conventional radio equipment and systems
- Ability to continue to talk to agencies with disparate systems
- System expansion capability

6.4 Threats

Perceived/known threats for ALMR are:

- Potential reduction of funding availability from infrastructure owners for maintenance, equipment replacement and operating system updates
- Reverting to a break/fix maintenance practice due to the non-availability of funds
- External natural and manmade destruction of ALMR infrastructure
- Pullout of key stakeholders
- Failure to fully implement a cost share agreement

7.0 Conclusion

Given the amount of operational tasks to be accomplished, it is necessary to prioritize the top issues/goals requiring immediate attention according to their importance to the operation of the ALMR System.

This is not to say that any of the strategic goals are unimportant, but rather that some are more essential to establishing an effective operations organization.

The following three issues/goals are deemed priority items that need immediate attention from the OMO:

- Finalize and fully implement a fair and equitable Cost Share Agreement that allows communities and potential new users to address and budget future ALMR financial expenditures
- Promote and encourage potential new users to come onto the ALMR System and improve coverage/capacity within current footprint

- Provide information to the stakeholder community to keep them involved/informed with ALMR maintenance, operations and activities

Appendix A
Operations and Maintenance Organizational Structure