
ALASKA LAND MOBILE RADIO

# Alaska Land Mobile Radio Communications System

## Technology Procedure 300-2

**Version V13**

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## Document Revision History

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## 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.

**Abuse of User Privileges:** repeated violation of system guidelines, procedures, protocols, or violation of the Membership Agreement may result in termination of the Membership Agreement subject to the review and direction of the Executive Council. A decision by the Executive Council is final and non-appealable.

**Alaska Land Mobile Radio (ALMR) Communications System**: the ALMR Communications System, as established in the Cooperative and Mutual Aid Agreement.

**Alaska Municipal League (AML):** a voluntary non-profit organization in Alaska that represents 165 cities, boroughs, and unified municipalities.

**Alaska Public Safety Communication Services (APSCS):** a State of Alaska (SOA) office in the Department of Public Safety (DPS) that operates and maintains the SOA Telecommunications System (SATS) supporting ALMR and provides public safety communication services and support to state agencies.

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

**Department of Public Safety (DPS):** a State of Alaska (SOA) department where the SOA Telecommunications System (SATS) and ALMR programs reside.

**Executive Council:** governing body 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).

**Local Governments:** those Alaska political subdivisions defined as municipalities in AS 29.71.800(14).

**Member:** a public safety agency including, but not limited to, a general government agency (local, state, tribal, 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:** 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; establishes policies, procedures, contracts, organizations, and agreements that provide the service levels as defined in the ALMR Service Level Agreement in coordination with the User Council.

**Operations Management Office (OMO):** develops recommendations for policy, procedures, and guidelines; identify technologies and standards; and coordinates intergovernmental resources to facilitate communications interoperability with emphasis on improving public safety and emergency response communications.

**State of Alaska (SOA):** the primary maintainer of the State's infrastructure system, and shared owner of the ALMR system. The State of Alaska sponsors local/municipal agencies onto the system.

**State of Alaska Telecommunications Systems (SATS):** the State of Alaska statewide telecommunications system microwave network.

**System:** the ALMR Communications System, as established in the Cooperative and Mutual Aid Agreement, and any and all System Design/System Analysis (SD/SA) and System Design/System Implementation (SD/SI) documents.

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

**User:** an agency, person, group, organization, or other entity which has an existing written membership agreement to operate on ALMR with one of the parties to the Cooperative and Mutual Aid Agreement. The terms user and member are synonymous and interchangeable. All terms and conditions of the Cooperative and Mutual Aid Agreement defined apply to local/municipal government agencies that are sponsored/represented by the State of Alaska.

**User Council:** governing body 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 operations of the system. The User Council oversees the development of system operations plans, procedures and policies.

# 1.0 Purpose

This document serves to define roles and responsibilities for the Alaska Land Mobile Radio (ALMR) Communications System Operations Management Office (OMO) and System Management Office (SMO) for improving communications and advancing the technologies employed with the ALMR system for the benefit of stakeholders and the agencies that utilize it.

# 2.0 Roles and Responsibilities

## 2.1 User Council

The User Council (UC) shall be responsible for:

- Approving new technologies.
- Recognizing new communication needs, communicating system information, and addressing questions and complaints or providing clarification about the system and other topics to their represented agencies.
- Determining whether improvements, changes, upgrades, or additions are needed, and assigning the OMO to develop a plan.
- Formal approval of the Technology Procedure, and any substantial revisions hereafter.

## 2.2 Operations Management Office

The Operations Management Office (OMO) shall be responsible for:

- Keeping abreast of new technology developments, advancements, announcements, standards, and operational best practices in LMR-related technology.
- Developing and administering the management and operational processes and procedures required for the smooth operation of the system.
- Reviewing current wireless technologies in the industry and evaluating their applicability to system functional and technical applications and agency requirements.
- Evaluating mission requirements and how changing technology can be used more effectively.
- Evaluating new technologies and briefing the UC regarding system applicability
- Developing a plan, in cooperation with the UC, for necessary modifications to existing system hardware/software.
- Attending system/equipment testing or product reviews at the designated user facility, facilitating the test plan, verifying test procedures, and validating documents, as applicable.

### 2.3 System Management Office

The System Management Office (SMO) shall be responsible for:

- Working closely with the OMO and the UC to review and/or evaluate new technologies.
- Providing a technology review and management presentation on the current state of communications, considerations for planned upgrades or changes and current or future technologies available for consideration, at least annually.

### 2.4 User/Member Agencies

User/Member agencies shall be responsible for:

- Contacting the OMO to request research and testing of new technologies for compatibility on the system.
- Submitting an ALMR System Change Request (CR) for review and approval prior to implementing any upgrade, change, or addition to the system hardware/software.

## 3.0 Standards

### 3.1 SAFECOM

SAFECOM[1] defines a set of features that must be available in a public safety technology solution. These features range from defining the requirements for securing the communications network, to the command-and-control features for maintenance and operation of a system.

They include:

- Mobility
- Security for voice and data
- Call types (individual, multicast, and group communications streams)
- Scalability
- Command and control
- Operations and maintenance
- Commercial off-the-shelf (COTS) products
- Standards-based design
- Backward compatibility
- Migration path for legacy equipment and systems
- Spectrum and network efficiency

[1] https://www.cisa.gov/safecom

- Ergonomic and environmental improvements (size, weight, hands-free, battery life, mil-standards, safety standards, etc.)
- Extensibility
- Modularity

The performance of the supporting technology solution needs to address:

- Quality of service
- Availability
- Reliability
- Survivability
- Restorability

### 3.2 Incident Support

Technology is highly dependent upon existing infrastructure within a region. Multiple technology solutions may be required to support large events. Examples include:

- Swapping Radios
- Shared Channels
- Gateways (i.e., radio-over-IP, FirstNet)
- Proprietary shared systems
- Standards-based shared systems

## 4.0 Procedures

Before selecting a final technology solution, the following factors should be considered and thoroughly researched to ensure the product/equipment will meet the majority of the needs of the organization.

### 4.1 Impact

Available technologies must be assessed for both the short- and long-term impact on operational requirements and implementation. Areas of consideration, when making a technology selection should include:

- Training requirements
- Cost and funding schedules
- Transition plans
- Compatibility with related equipment, such as networks which may not be replaced for an extended period (forward and backwards compatibility).
- Projected lifespan
- Security impacts
- Interoperability with neighboring organizations.
- Potential impact of technology upgrades/refreshes.

### 4.2 Source

The following items should always be evaluated when considering a technology source or a servicing vendor:

- A reputation of reliability
- Current functionality of supplied/installed systems and equipment.
- Frequency of updates or changes during system installation.
- Flexibility of the technology for system expansion and increased user requirements.

### 4.3 Selection Criteria

There may not be a single, available technology that meets all required or desired areas. Therefore, the assessment and final decision becomes a reasoned compromise for planning and setting expectations. Technology selections should be based on the following major considerations:

- Funding
- User requirements analysis
- Spectrum availability
- Existing resources

## 5.0 Compliance

Compliance with the Technology Procedure is outlined in ALMR Technology Policy Memorandum 300-2.