



Alaska Land Mobile Radio Communications System

Concept of Operation (CONOP)

Version 9

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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.

Alaska Land Mobile Radio (ALMR) Communications System: the ALMR Communications System, which uses but is separate from the State of Alaska Telecommunications System (SATS), as established in the Cooperative Agreement.

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

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.

Anchorage Wide Area Network (AWARN): the 700 MHz Anchorage node of ALMR. AWARN will make up the third zone of the System.

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.

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).

Gateway: a device that allows a disparate radio to communicate in real time, overcoming spectrum, formatting, and other technical challenges. ALMR utilizes MotoBridge® gateways.

Incident Command System (ICS): the ICS is a management system used to organize emergency response. ICS offers a scalable response to an emergency (incident) of any

magnitude, and provides a common framework within which people can work together. These people (resources) may be drawn from multiple agencies that do not routinely work together. The system is designed to grow and shrink along with the incident, allowing more resources to be smoothly added into the system when needed and released when no longer needed.

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.

Local Governments: those Alaska political subdivisions defined as municipalities in AS 29.71.800(13).

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.

Membership Agreement: the agreement entered into between the ALMR Operations Management Office and the user agency, which sets forth the terms and conditions under which the System provides services to the user agency.

Mobile Radio: a radio that is installed in a vehicle and has a medium to high power output.

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

National Incident Management System (NIMS): a unified approach to incident management, standard command, and management structures with emphasis on preparedness, mutual aid, and resource management.

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.

Operations Management Office (OMO): develops recommendations for policy, procedures, and guidelines; identifies technologies and standards; and coordinates

intergovernmental resources to facilitate communications interoperability with emphasis on improving public safety and emergency response communications.

P25 Radio: a Project 25 compliant control station, console, mobile or portable radio assigned to the System that has a unique identification number.

Portable Radio: a hand-held, low-power, two-way radio.

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

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

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

Subscriber: an individual or company that is uniquely identified within the system as a user of services.

Subscriber Equipment: portable, mobile and console equipment that is intended to operate on the ALMR infrastructure for day-to-day intra-agency communications and/or inter-agency cross-jurisdictional interoperability purposes. Subscriber equipment can also include network management terminals, key management facility equipment, gateway and other assets which are determined not to be a burden cost share in applicable Memoranda of Agreement (MoAs).

System: the ALMR Communications System, as established in the Cooperative 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.

Tactical Interoperable Communications Plan (TICP): provides communications processes, procedures, and protocols and identifies agency assets for responding to regional public safety events.

Talkgroup: a unique group of radio Users that can communicate with each other.

Transportable Unit: a fully self-sustaining portable ALMR communications site that can be used as a standalone site anywhere in the state, as a replacement site if an

existing site fails or is destroyed or to add channel capacity to an existing site during an incident or special event.

Trunking: because of the limited nature of radio spectrum, trunking technology allows the most efficient use of radio channels. Trunking technology is similar to the technology that the telephone companies use. In trunked radio communications, all available user channels are placed into one pool. When a person needs to transmit, a channel is automatically selected from the available pool and used for transmission. When the person is finished with the transmission, the channel is placed back in the pool for another individual to use. The result is more efficient use of radio spectrum with a minimal probability of not having access to a channel.

User/Member: 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 operations 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

The best available two-way radio technology, superior design and innovative construction techniques quickly become immaterial if quality, on-going operational policies and guidelines are not addressed early on and maintained throughout a System's lifecycle. The accessibility of critical resources, a high-level of System availability, functional interoperability, reduced operations and maintenance costs, along with an emergency response capability, are paramount for success.

The Alaska Land Mobile Radio (ALMR) partnership was formed to address the challenges of providing seamless, effective, and coordinated response to all types of incidents from day-to-day operations, natural/manmade disasters, special events and homeland defense operations within Alaska. The partners include the State of Alaska (SOA), Department of Defense (DOD), Federal Non-DOD agencies, and local governments and tribal entities.

ALMR was the first LMR system in the United States to use shared very high frequency (VHF) channel pairs authorized for use by both the Federal Communications Commission (FCC) and the National Telecommunications and Information Administration (NTIA). It provides an improved level of communications interoperability for those agencies that have chosen to transfer their operational communication requirements from their older conventional systems to the ALMR System.

This Concept of Operation (CONOP) provides high-level guidance on effectively managing ALMR on a day-to day basis, and providing and ensuring standardized communications protocols during incidents involving single agency/single jurisdiction or multi-agency/multi-jurisdiction responses at the local, regional and statewide levels.

ALMR follows the National Framework for Interoperability by addressing the five critical success areas identified in the SAFECOM Continuum: Governance, Standard Operating Procedures, Technology, Training and Exercises, and Usage. This CONOP also addresses these five areas in the following paragraphs.

2.0 Governance Structure

The ALMR System provides a radio infrastructure that enables State, Federal, and local agencies and tribal entities to communicate for their routine day-to-day public safety functions, as well as to respond to emergencies and disaster incidents. Agencies share in one wide-area system providing radio coverage for a substantial portion of Alaska, primarily along the major highways, but also including portions of the Alaska Marine Highway System. The ALMR System also includes transportable communications resources to temporarily extend ALMR to more remote areas of the State or supplement the existing infrastructure, when approved.

ALMR is operated under the Cooperative Agreement, which sets out the terms and conditions by which the System will be governed, managed, operated and modified.

2.1 Executive Council

The executive level governance body representing the parties to the Cooperative Agreement for the ALMR System is referred to as the Executive Council (EC). The EC has three voting members: Federal Non-DOD, whose agencies are represented by Alaska Federal Executive Association(AFEA); the Department of Defense (DOD); and the State of Alaska (SOA), as well as two non-voting, associate members: the Alaska Municipal League (AML), which represents tribal entities and local agency interests) and the Municipality of Anchorage (MOA). Each member represents their level of government and/or jurisdictional area.

The EC provides management and oversight of System planning, strategy development, engineering and design.

This formal governance structure allows for development of interoperability policies, processes and procedures that enhance communications, coordination and cooperation among ALMR users.

2.2 User Council

The User Council (UC) was established by the Cooperative Agreement and works in conjunction with the Operations Management Office (OMO) and the System Management Office (SMO) to oversee day-to-day System operations, provide input into System expansion potential and provide a voice for the participating agencies on ALMR.

2.3 Cost Share Agreement

On August 21, 2008, the EC accepted an approach and method for determining the Cost Share strategy for the System. It was agreed: 1) that the stakeholder would pay for maintenance of their owned infrastructure via shared outsourced maintenance contracts; 2) the cost for the OMO and SMO would be shared by all users equally (calculated, at the time, using the cost per month per subscriber unit based on total number of subscriber units on the System at the end of each calendar year); and 3) the Municipality of Anchorage pays to maintain its Anchorage Wide Area Radio Network (AWARN) and trades circuit costs equally between itself and ALMR.

In late 2011, the EC appointed a Cost Share Working Group (CSWG) to review the cost share methodology with regard to the changes in infrastructure ownership that were driven by the divestiture of radio frequency (RF) equipment owned by the U.S. Army - Alaska (USARAK) at 41 SOA sites. The CSWG came to an agreement that the owners of the infrastructure were still responsible for the maintenance of their infrastructure and shared costs would be apportioned based on the percentage of infrastructure owned.

This method was deemed the 88/12 method based on the SOA owning 88 percent of ALMR infrastructure and the DOD owning 12 percent.

The non-infrastructure owning agency's cost share portion is based on their agency airtime usage as a percentage of the total System airtime for the prior calendar year.

In 2016 under a new contract, it was agreed that for Master Site maintenance, 50 percent would be paid by the State of Alaska, and 50 percent would be paid by DOD Alaska, or in other words, each paying 100 percent of their owned site controller costs.

2.4 Membership Agreement

Per the Cooperative Agreement, agencies must sign and have on file with the OMO, a signed Membership Agreement.¹ Agreements will be reviewed annually, with regard to cost share, prior to each new fiscal year (based on the State fiscal year). Nothing in the Membership Agreement shall be construed as binding the member agency to expend in any one fiscal year any sum in excess of appropriations authorized by their respective funding entity or to be obligated to make an expenditure of money in excess of such appropriations.

3.0 Standards-Based Shared System

As previously noted, LMR systems are the primary means of first responder communications. The inability to seamlessly communicate with one another during inter-agency responses has long been recognized as a national problem, as well as a problem during incident command mutual aid responses within Alaska.

The Federal, State, and local and tribal public safety communities in Alaska, in the past, used a variety of radio communication systems. These were the primary systems, which supported mutual aid, incident command and task force/homeland defense missions. As these systems aged and became obsolete, the high maintenance costs and lack of replacement parts made them difficult to sustain. Additionally, a greater emphasis was placed on the increasing need for interagency interoperability. Concurrently, competition between public safety agencies and commercial users for spectrum resources increased dramatically over the years.

The ALMR System consists of the respective physical assets, including spectrum resources, infrastructure, hardware, software and other equipment, which are dedicated in whole, or in part, by the Parties solely for the purpose of their use and integration, as provided under the Cooperative Agreement.

The goals of ALMR are:

- Cooperative sharing of a common radio infrastructure
- Enhanced personnel safety and operational capabilities

¹ Cooperative Agreement, Article 11, Section 6, November 21, 2007

- Improved Incident Command response capabilities
- Support for the National Response Plan and National Incident Management System (NIMS) implementation

The ALMR partnership is committed to providing operations and maintenance support and autonomous day-to-day interoperable communications. It provides expanded interoperability for all levels of government, additional capacity through the use of trunked digital voice channels, and seamless, secure, on-demand and in-real-time communications for Joint Task Force events using NIMS.

3.1 Features

The System supports wide-area connectivity through three integrated zone controllers; the South Zone Controller (Zone 1) in Anchorage, which also functions as the Master Zone Controller. The other two zone controllers are the North Zone Controller (Zone 2) in Fairbanks and the Municipality of Anchorage (MOA) Zone Controller (Zone 4) servicing the 700MHz Anchorage Wide Area Radio Network (AWARN)². This provides interoperability between VHF and 700 MHz digital trunked talkgroups.

Communications connectivity with other existing systems in Alaska, such as 800/700 MHz analog talkgroups, ultra-high frequency (UHF) conventional channels, various identified conventional channels and air-to-ground communications, are facilitated through the ALMR Interoperability Network (AIN) MotoBridge[®] gateways or through programming of conventional frequencies into ALMR radios.

All VHF subscriber radio units roam throughout the coverage area without user intervention. Automatically switching between sites allows the user to maintain continuous communications. MOA 700MHz subscribers only operate within the MOA Zone Controller radio sites' footprint.

A full description of features and functions can be found in the Cooperative Agreement Appendix B, System Description. (www.alaskalandmobileradio.org/documents.htm)

3.2 Coverage

The goal of ALMR is to provide interoperable communications service for Federal, State, and local governments and tribal entities, which support public safety operations in the most populated areas within Alaska, through a statewide network of communications assets along the major highway systems.

ALMR provides 90 percent, tested mobile radio communication coverage to the member agencies (subject to agency compliance with recommended optimal performance standards for equipment, antenna installation and subscriber maintenance).

² Zone 3 is reserved for possible future expansion in Southeast Alaska.

Portable radio coverage is not guaranteed and will vary from location to location, but is estimated to be at approximately 90 percent in most populated areas. Each user agency is encouraged to conduct their own portable radio communications coverage tests to determine actual coverage levels in its geographic jurisdiction.

3.3 Integration

3.3.1 Transportable System

Two deployable self-contained transportable communications systems, Transportable Area North (TAN) and Transportable Area South (TAS), can be utilized (when authorized) to provide coverage and reach back in areas outside of the current ALMR coverage footprint, to increase the loading capacity at a site or location during an emergency, or to supplement a downed radio site until restoral is achieved. These resources are the property of the DOD and their use must be requested and approved.

The transportable systems provide:

- Deployable/backup emergency interoperable communications
- P25 compliant, five-channel intellisite trunked repeater system
- Digital circuit interface equipment (microwave radio, multiplexer and digital access connect DAC0 system)
- Satellite communications (X-, C- or Ku-Band)
- Media Converters (fiber/copper)
- Two dispatch operator positions
- MotoBridge[®] gateway interoperability equipped with civil and military air-to-ground and VHF/FM Marine-band radios
- External telephone and internet capability
- Secure MESH[™] (local and wide area data network with remote video control)
- Tactical video teleconferencing capability

3.3.2 ALMR Interoperability Network (AIN) Gateways

MotoBridge[®] is an interface device that requires minimum system modification and offers maximum interoperability. MotoBridge[®] offers a cost-effective means of short-term or permanent connectivity between disparate radio systems, networks, agencies and jurisdictions. Installation and implementation is quick and seamless across the frequency spectrum and various manufacturers' radio systems can be supported with a gateway system.

Work Station Gateway Units (WSGU) and Radio Gateway Units (RGU), as identified by the State of Alaska (SOA) Enterprise Technology Services (ETS), are currently installed at the following locations:

DOD Sponsored:

- Eielson Air Force Base
- Fort Greely

- Fort Richardson
- Fort Wainwright
- Joint Base Elmendorf-Richardson
- TAN
- TAS

SOA Sponsored:

- Anchorage
- Byers
- Delta
- Fairbanks
- Glennallen
- Homer PD
- Juneau –
- Kodiak
- MATCOM
- Palmer
- Saddle Mountain
- Seward
- Site Summit
- Soldotna
- Sterling
- St Paul
- Ted Stevens Anchorage International Airport
- Tok
- Tudor Tower
- UAF
- Valdez
- Wasilla

0

Shared DOD/SOA Sponsored:

- Valdez (servicing gateway to Coast Guard operations)
- USCG Tie Trunk

4.0 System Usage

Agencies operate on the ALMR System to meet their everyday needs. This same System is also used to communicate and interoperate during emergency/medical responses and Joint Task Force operations locally, regionally and statewide. As knowledge of ALMR capabilities increases, and coverage expands, more public safety agencies are likely to come on to the System, further enhancing interoperability.

4.1 Department of Defense

The DOD utilizes ALMR 365 days a year for day-to-day operations, exercises and to perform their Defense Support to Civil Authorities (DSCA) missions, should they be called up.

DOD user agencies:

- 13th Space Warning Squadron (Clear AFS)
- 354th Fighter Wing (Eielson AFB)
- 673rd Air Base Wing (Joint Base Elmendorf-Richardson/Elmendorf)
 - Alaskan Command
- U.S. Army-Alaska
 - Fort Wainwright
 - Fort Greely
 - Fort Richardson
- U.S. Army Corps of Engineers-Alaska District
- USMC Detachment, MP Company D, 4th Law Enforcement Battalion

4.2 State of Alaska

The State of Alaska utilizes ALMR to accomplish their daily missions and to fulfill their responsibility for the safety of the general public and the welfare of all its citizens.

SOA agencies:

- 49th Brigade
- 168th Wing
- 176th Wing
- Alaska Army National Guard
- Alaska Railroad Corporation
- Department of Corrections
 - Probation and Parole
- Department of Environmental Conservation
 - Environmental Health Lab
 - Spill Prevention, Preparedness and Response Program
- Department of Health and Social Services
 - Division of Juvenile Justice
 - Division of Public Health - Section of Emergency Programs
- Department of Natural Resources
 - Division of Forestry
 - Division of Parks & Outdoor Recreation
 - Salcha-Delta Soil & Water Conservation District
- Department of Public Safety
- Department of Transportation and Public Facilities
 - Commercial Vehicle Enforcement
 - Fairbanks International Airport
- Division of Homeland Security & Emergency Management

- Division of Pioneer Homes
- Enterprise Technology Services
- Legislative Affairs Agency
- University of Alaska-Fairbanks
 - Police Department
 - Fire Department

4.3 Federal Non-DOD Agencies

Federal Non-DOD agencies support a variety of missions utilizing ALMR and are represented by the AFEA.

Federal Non-DOD agencies:

- Department of Agriculture
 - U.S. Forest Service - Law Enforcement & Investigations
- Department of Commerce
 - National Oceanic and Atmospheric Administration - Fisheries Enforcement
- Department of Homeland Security
 - Federal Emergency Management Agency
 - Immigration and Customs Enforcement - Homeland Security Investigations
 - National Program Protection Directorate Federal Protective Service
 - Transportation Security Administration
 - U.S. Coast Guard Investigative Service – Alaska Operations
- Department of the Interior
 - Bureau of Land Management
 - National Park Service - Denali Park
 - U.S. Fish & Wildlife Service
- Department of Justice
 - Drug Enforcement Agency
 - Federal Bureau of Investigation
 - U.S. Attorney's Office - District Anchorage
 - U.S. Marshal Service
- Department of the Treasury
 - Bureau of Alcohol, Tobacco, Firearms, and Explosives
 - Internal Revenue Service Criminal Investigations
- Department of Transportation
 - Federal Aviation Administration

4.4 Local Agencies

Local government and volunteer agency numbers play a pivotal public safety role across the State. They pick up the burden in areas where SOA does not provide personnel to perform vital public safety services, and in the case of volunteers, without compensation.

4.4.1 Local Governments/Non-Governmental agencies:

- Alaska Professional Volunteers

- Amateur Radio Emergency Services
- Anchor Point Fire Department
- Anderson Volunteer Fire Department and Emergency Medical Service
- Anton Anderson Memorial Tunnel Fire Department
- Bear Creek Fire Service Area
- Cantwell Volunteer Fire Department
- Capital City Fire/Rescue
- Central Emergency Services
- City of Delta Junction Volunteer Fire Department
- City of Fairbanks
 - Emergency Communications Center
 - Fire Department
 - Police Department
- City of Nenana
- City of Seldovia
- City of Seward
- Chena Goldstream Fire Department
- Chickaloon Village Tribal Council Justice Department
- Chitina Volunteer Fire and Rescue
- Cooper Landing Emergency Services
- Copper River Emergency Medical Services
- Copper River Native Association
 - Copper Center Clinic
 - Gakona Clinic
 - Gulkana Clinic
 - Tazlina Clinic
- Cordova Police Department
- Cross Road Medical Center
- Delta Medical Transport
- Ester Volunteer Fire Department
- Fairbanks Memorial Hospital
- Fairbanks North Star Borough
- Girdwood Volunteer Fire Department
- Glen Rich Fire and Rescue
 - Copper Center Volunteer Fire Department
 - Glennallen Volunteer Fire Department
 - Silver Springs Volunteer Fire Department
 - Tazlina Volunteer Fire Department
 - Tolsona Volunteer Fire Department
- Haines Borough Police Department
- Homer Police Department
- Homer Volunteer Fire Department
- Hope/Sunrise Emergency Fire Department
- Houston Fire Department
- Juneau Police Department
- Kachemak Emergency Services

- Kenai Fire Department
- Kenai Peninsula Borough
 - Central Peninsula Hospital
 - Southern Peninsula Hospital
- Kenai Peninsula Borough School District
- Kenai Police Department
- Kennicott/McCarthy Volunteer Fire Department
- Lake Louise Volunteer Fire Department
- LifeMed Alaska
- Lowell Point Volunteer Fire Department
- Matanuska-Susitna Borough
 - Central Mat-Su Fire Department
- Matanuska-Susitna Medical Center
- McKinley Volunteer Fire Department
- Moose Pass Fire and Emergency Medical Service
- Mt Sanford Tribal Consortium
- Municipality of Skagway
- Naukati Bay Volunteer Fire Department and Emergency Medical Service
- Nelchina/Mendeltna Volunteer Fire Department
- Nikiski Fire Department
- Ninilchik Emergency Services
- North Pole Fire Department
- North Pole Police Department
- North Star Volunteer Fire Department
- Ouzinkie Department of Public Safety
- Palmer Department of Public Works
- Palmer Fire Department
- Palmer Police Department
- Providence Kodiak Island Medical Center
- Providence Seward Medical & Care Center
- Rural Deltana Volunteer Fire Department
- Salcha Rescue
- Seward Volunteer Ambulance Corps
- Soldotna Police Department
- St Paul Public Safety, City of
- St Paul Department of Community Safety and Peace
- Steese Area Volunteer Fire Department
- Tok Area Emergency Medical Service
- Tok Volunteer Fire Department
- Tolsona Fire Department
- Tri-Valley Volunteer Fire Department
- Valdez City Schools
- Valdez Fire Department
- Valdez Police Department
- Wasilla Police Department
 - MATCOM

- Whitestone Emergency Medical Services
- Whittier Police Department

4.4.2 Municipality of Anchorage agencies:

- Anchorage Emergency Medical Services
- Anchorage Facilities Maintenance
- Anchorage Fire Department
- Anchorage Libraries
- Anchorage Museum
- Anchorage Parks and Recreation
- Anchorage Police Department
- Anchorage Public Transportation
- Anchorage School District
- Anchorage Solid Waste Services
- Anchorage Street Maintenance
- Anchorage Water and Waste Water Utility
- Chugiak Volunteer Fire
- Emergency Operations Center
- Girdwood Volunteer Fire Department
- Health/Human Services
- MOA Communications Division
- Municipal Manager
- Municipal Light and Power
- Port of Anchorage
- Sullivan Arena
- Ted Stevens Anchorage International Airport
- University of Alaska-Anchorage Police
- US Veterans Administration Hospital

5.0 Incident Command/Emergency Response Communications - Standard Operating Procedures and Protocols

The National Response Plan establishes a comprehensive all-hazards approach to enhance the ability of the United States to manage domestic incidents. It incorporates best practices and procedures from incident management disciplines (homeland security, DOD emergency management, law enforcement, firefighting, public works, public health, responder and recovery worker health and safety, emergency medical services and the private sector) and integrates them into a unified command structure.

It forms the basis of how Federal departments and agencies will work together and how the Federal government will coordinate with State and local governments, tribal entities, and the private sector during incidents to help protect the nation from terrorist attacks and other natural and manmade hazards.

Incident communications are facilitated through the deliberative development, and use, of common communications plans and interoperable communications protocols, processes and procedures. This integrated approach links operational and support units of various agencies and is necessary to maintain communications connectivity, as well as enable common situational awareness and interaction. Preparedness planning must address the equipment, systems and protocols necessary to achieve voice and data incident management communications.

5.1 Integrated Communications Protocol

ALMR was designed and implemented to establish and maintain communications connectivity for interoperable, secure, on-demand and in-real-time communications supporting NIMS. This designed protocol uses trunked radio technology and employs a gateway approach for the integration of conventional and other disparate voice and data systems.

ALMR Incident Command System (ICS) communications protocols are scalable to support the exact composition of a unified command organizational structure. The protocol was developed to support either a single incident in a multi-jurisdictional response, or multiple incidents with multi-agency, multi-jurisdictional responses. The communications protocol programmed into ALMR radios also supports unified command administrative communications needs.

The Admin/OP/Statewide IC Zones and Regional IC Zones should be programmed into every radio operating on ALMR. If this is not an option due to the limitations of the radio, the Statewide IC Zone and the agency's Regional IC Zone should be programmed, at a minimum.

5.1.1 Statewide IC Zone

ALMR requires that all subscriber units have the Statewide ICS common-use talkgroups programmed into their radios in anticipation of responses involving more than one region. To provide additional administrative and logistical support communications capability without diminishing the number of command and tactical talk groups available, a Statewide Admin Zone and a Statewide OP Zone were also developed and should be programmed into ALMR subscriber units, as well.

Additionally, the Statewide IC Zone should be requested and utilized by the Incident Commander during major incidents when:

- The span of control exceeds a Regional IC Zone capabilities
- Approved for use by the controlling State agency
- State and Federal agencies are deployed for incident support
- Planned for use by the incident Communications Leader (COML) and ready for implementation

Statewide IC Zone may also be implemented when an incident or incidents require coordination between two or more regions.

Requests for utilizing the Statewide IC, Admin and OP Zones, and assignment of specific talkgroups, are coordinated through the Region D, Alaska State Trooper Dispatch center in Fairbanks. The Dispatch Center can be contacted on the Statewide IC Zone Hail, by phone at 907-451-5100 or by email at dispatch.fairbanks@alaska.gov.

The Statewide IC Zone common use talkgroups:

| Statewide IC Zone | |
|--------------------------|---|
| HAIL | Monitored by Dispatch |
| S TAC 1 | South Zone Tactical Responder Talkgroup |
| S TAC 2 | South Zone Tactical Responder Talkgroup |
| S TAC 3 | South Zone Tactical Responder Talkgroup |
| N TAC 1 | North Zone Tactical Responder Talkgroup |
| N TAC 2 | North Zone Tactical Responder Talkgroup |
| N TAC 3 | North Zone Tactical Responder Talkgroup |
| TAC SX | Conventional Talk-Around |
| CMD 1 | Command Talkgroup |
| CMD 2 | Command Talkgroup |
| CMD 3 | Command Talkgroup |
| CMD 4 | Command Talkgroup |

5.1.2 Statewide Admin Zone

The Admin talkgroups are provided to minimize any confusion between “forward incident operations” and “rear area” support, as well as to maintain chain of command and assist with continuity of incident operations.

The Statewide Admin Zone should be programmed into ALMR radios for use by agencies that provide support functions such as logistics, finance and administration during incidents.

In most cases, the Admin talkgroups can be used by EOC personnel or those deployed to an Incident Command Post, when assigned. During many incidents, the standard means of incident support communications within an EOC are wire line telephone, cellular phones and e-mail, and should always be used when available to maximize the effective and efficient use of the ALMR System by first responders and on-scene support personnel.



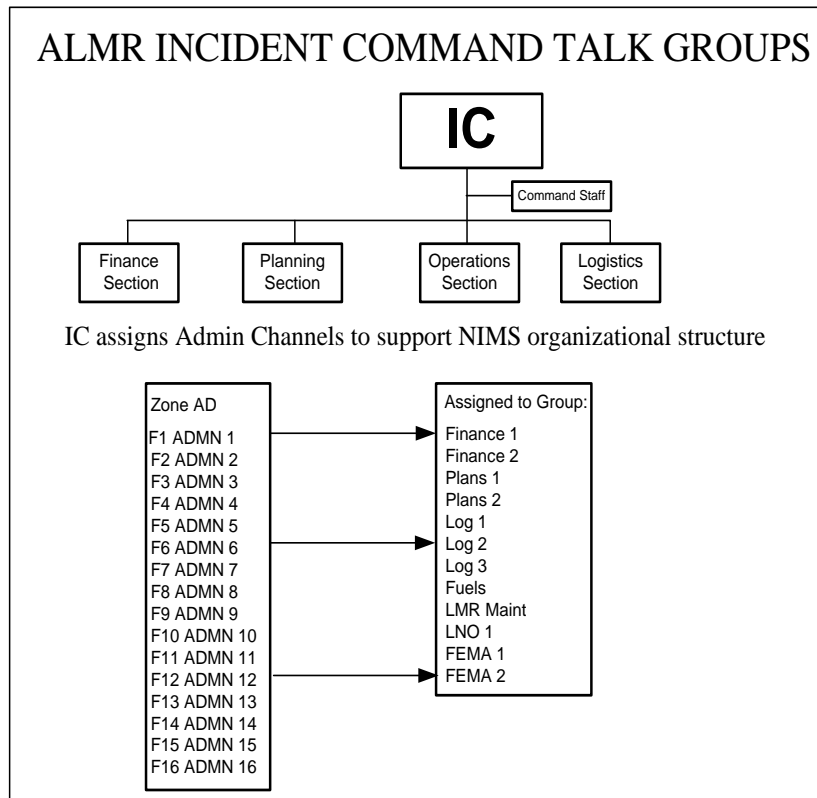
Available Admin talkgroups are:

| Statewide Admin Zone | |
|-----------------------------|------------------------|
| ADMN1 | IC Administrative Ch 1 |
| ADMN2 | IC Admin Ch 2 |
| ADMN3 | IC Admin Ch 3 |
| ADMN4 | IC Admin Ch 4 |
| ADMN5 | IC Admin Ch 5 |
| ADMN6 | IC Admin Ch 6 |
| ADMN7 | IC Admin Ch 7 |
| ADMN8 | IC Admin Ch 8 |
| ADMN9 | IC Admin Ch 9 |
| ADMN10 | IC Admin Ch 10 |
| ADMN11 | IC Admin Ch 11 |
| ADMN12 | IC Admin Ch 12 |
| ADMN13 | IC Admin Ch 13 |
| ADMN14 | IC Admin Ch 14 |
| ADMN15 | IC Admin Ch 15 |
| ADMN16 | IC Admin Ch 16 |

Assigned by IC Commander

The Region D Dispatcher is the authority to use these channels

The Incident Commander assigns the IC administrative channels. The following is an example of what the channel plan might look like.



5.1.3 Statewide OP Zone

Statewide Conventional IC Zone (OP) channels are to be programmed into every ALMR and legacy system radio statewide to provide routine interoperability during incidents. Use and management of the OP Zone during an incident will be accomplished by the Incident Commander, in coordination with the COML.

Assigned OP Zone talkgroups are:

| Statewide OP Zone | | Standard Statewide Interoperability Channels for all ALMR Radios | | | | |
|-------------------|----------|--|----------|-------|------|--|
| Name | Freq TX | PL TX | Freq RX | PL RX | Mode | Description |
| LE SX | 155.2500 | none | 155.2500 | CSQ | NBFM | Law Enforcement Simplex |
| EMS-S | 159.2100 | none | 159.2100 | CSQ | NBFM | AK Emergency Medical Service |
| SAR | 155.1600 | none | 155.1600 | CSQ | NBFM | Search & Rescue |
| CH6 | 156.3000 | none | 156.3000 | CSQ | WBFM | Marine - Intership Safety* |
| CH16 | 156.8000 | none | 156.8000 | CSQ | WBFM | Marine - Calling* |
| CH17 | 156.8500 | none | 156.8500 | CSQ | WBFM | Marine - State Control* |
| CH22A | 157.1000 | none | 157.1000 | CSQ | WBFM | Marine - Coast Guard Liaison* |
| VCALL10 | 155.7525 | 156.7 | 155.7525 | CSQ | NBFM | National VHF Calling Channel |
| VTAC11 | 151.1375 | 156.7 | 151.1375 | CSQ | NBFM | National VHF Tactical 1 |
| VTAC12 | 154.4525 | 156.7 | 154.4525 | CSQ | NBFM | National VHF Tactical 2 |
| VTAC13 | 158.7375 | 156.7 | 158.7375 | CSQ | NBFM | National VHF Tactical 3 |
| VTAC14 | 159.4725 | 156.7 | 159.4725 | CSQ | NBFM | National VHF Tactical 4 |
| ASTT | - | - | - | - | ALMR | Coordinate use with Alaska State Troopers |
| EMST | - | - | - | - | ALMR | Coordinate use with Emergency Medical Services |
| DECT | - | - | - | - | ALMR | Coordinate use with Department of Environmental Conservation |
| DNRT | - | - | - | - | ALMR | Coordinate use with Department of Natural Resources |

NOTES:

| | | |
|--|------|--------------------------|
| Narrow Band per FCC rules | NBFM | Narrow Band FM |
| Marine channels remain Wide Band | WBFM | Wide Band FM |
| ALMR uses P25 and trunking | ALMR | Trunking P25 |
| P25 Modulation is not used for conventional interoperability | P25 | Conventional P25 Digital |
| Carrier Squelch | CSQ | |

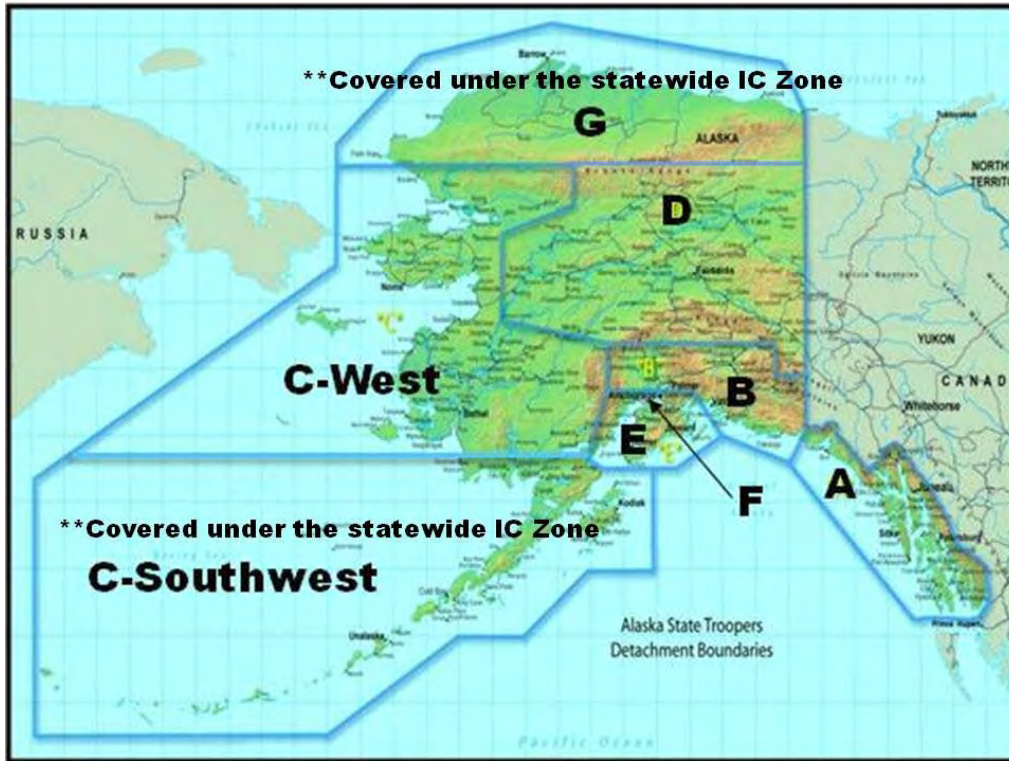
*Programmed into Department of Defense radios as "Emergency Use Only." HAILING & DISTRESS only: Use VHF Marine ch.16 to make contact. Non-maritime use of any VHF Marine channel requires FCC Special Temporary Authority or appropriate license.

5.1.4 Regional IC Zones

The Regional IC Zone protocol provides a common use talkgroup zone for each of the seven Tactical Interoperable Communications Plan (TICP) regions within Alaska. The benefit of having these zones programmed into ALMR radios is that regions will have access to mid-level ICS channels during a regional incident or event. In addition, the Incident Commander has assignment authority of the Regional IC Zone in coordination with the COML and the designated regional dispatch center.

To address ICS communications, the ALMR IC protocols divide the State into six regions (A – G), which follow the Alaska State Trooper detachment boundaries and areas of responsibility. Not all areas are covered by ALMR.

The following map depicts those regions and their associated alpha-numeric codes, followed by the controlling dispatch centers for the assigned regional HAIL channel.



| REGION | LOCATION | HAIL | CONTACT # | FAX | EMAIL |
|--------|---|--------|--------------|--------------|---|
| A | Ketchikan AST Dispatch | A HAIL | 907-225-5118 | 907-225-8679 | dispatch.ketchikan@alaska.gov |
| B | MATCOM Dispatch | B HAIL | 907-352-5401 | 907-357-7877 | dispatch@ci.wasilla.ak.us |
| C | Fairbanks AST Dispatch | C HAIL | 907-451-5100 | 907-451-5165 | dispatch.fairbanks@alaska.gov |
| D | Fairbanks Police Department Regional Dispatch | D HAIL | 907-450-6507 | 907-452-1588 | dispatch@ci.fairbanks.ak.us |
| E | Soldotna AST Dispatch | E HAIL | 907-262-4453 | 907-262-2889 | dps.all.soldotna.dispatch@alaska.gov |
| F | APD On-Duty Dispatch Supervisor | F HAIL | 907-786-8989 | | APDDispatchSupervisors@ci.anchorage.ak.us |

NOTE: Regions G (except eastern Kodiak Island), C-West and C-Southwest are outside of the ALMR coverage area and fall under the purview of the State of Alaska.

For each of the Regional IC Zones, there is a common naming convention whereas the first letter represents the TICP Region followed by an underscore or a space. The talkgroup “name” cannot exceed five characters, as shown in the Regional IC Zone chart that follows:

| Regional IC Zones | | | | | |
|---|--|---|---|--|----------------|
| Region A | Region B | Region C | Region D | Region E | Region F |
| Haines Juneau Ketchikan Petersburg Sitka Skagway Wrangell | Big Lake Glennallen Houston Palmer Talkeetna Trapper Creek Valdez Wasilla | Aniak Bethel Cold Bay Dillingham King Salmon Kodiak Kotzebue Nome St. Marys | Cantwell Chena Goldstream Delta Fairbanks Galena Healy Nenana North Pole | Girdwood Homer Kenai Seward Soldotna Whittier | Anchorage |
| A_HAIL | B_HAIL | C_HAIL | D_HAIL | E_HAIL | F_HAIL |
| A IC2 | B IC2 | C IC2 | D IC2 | E IC2 | F IC2 |
| A IC3 | B IC3 | C IC3 | D IC3 | E IC3 | F IC3 |
| A IC4 | B IC4 | C IC4 | D IC4 | E IC4 | F IC4 |
| A IC5 | B IC5 | C IC5 | D IC5 | E IC5 | F IC5 |
| A IC6 | B IC6 | C IC6 | D IC6 | E IC6 | F IC6 |
| A IC7 | B IC7 | C IC7 | D IC7 | E IC7 | F IC7 |
| A IC8SX | B IC8SX | C IC8SX | D IC8SX | E IC8SX | F IC8SX |
| A IC9 | B IC9 | C IC9 | D IC9 | E IC9 | F IC9 |
| A IC10 | B IC10 | C IC10 | D IC10 | E IC10 | F IC10 |
| A IC11 | B IC11 | C IC11 | D IC11 | E IC11 | F IC11 |
| A IC12 | B IC12 | C IC12 | D IC12 | E IC12 | F IC12 |
| A IC13 | B IC13 | C IC13 | D IC13 | E IC13 | F IC13 |
| A IC14 | B IC14 | C IC14 | D IC14 | E IC14 | F IC14 |
| A IC15 | B IC15 | C IC15 | D IC15 | E IC15 | F IC15 |
| A ICMG | B ICMG | C ICMG | D ICMG | E ICMG | F ICMG |

The ALMR ICS communications protocol is established as follows:

- Channel one of all Regional IC Zones will be a HAIL talkgroup monitored by the primary regional Dispatch center
- Channel eight (8) of all the regional IC Zones will have a simplex narrowband conventional frequency (140.6125 MHz) for short range interoperable communications and provides the same service as Channel 8 of the Statewide IC Zone
- Channels two through seven, and nine through fifteen, are available for assignment on an as-needed basis by a Regional Incident or On-scene Commander(s), as well as the primary Regional Dispatch center
- Channel 16 is an all-call (multi-group) talkgroup which permits simultaneous communications to all IC channels in that particular Regional IC Zone
- Use of Regional IC Zone channels must be tracked by the On-Scene Commander, when assigned to agencies during an incident
- Once an Incident Commander is assigned to assume responsibility for coordinating the response, the assignments of the Regional IC Zone talkgroups must be passed on by the On-Scene Commander
- During a specific incident, an agency goes to their Regional Hail channel and the Regional Dispatch center directs the agency to the appropriate IC Zone/channel

5.1.5 Incident Command Scenarios

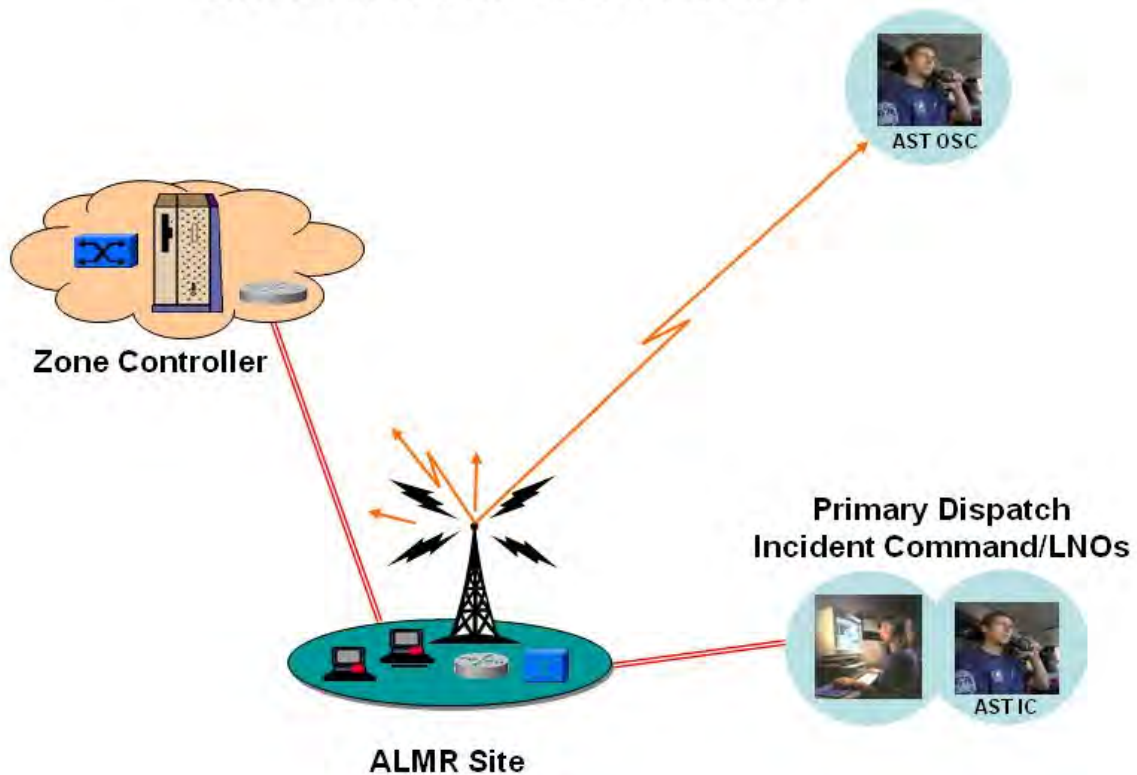
The following paragraphs and figures depict an operational concept of ALMR IC communications protocols. Examples of single and multiple incident management situations under a single Incident Commander are provided to assist you in understanding the established protocol.

Additional examples are also shown to address those situations where ALMR is not available.

Agencies are strongly encouraged to regularly exercise the use of the IC Zones, both internally and with other ALMR users, to ensure they are prepared to participate in multi-agency/multi-jurisdictional responses.

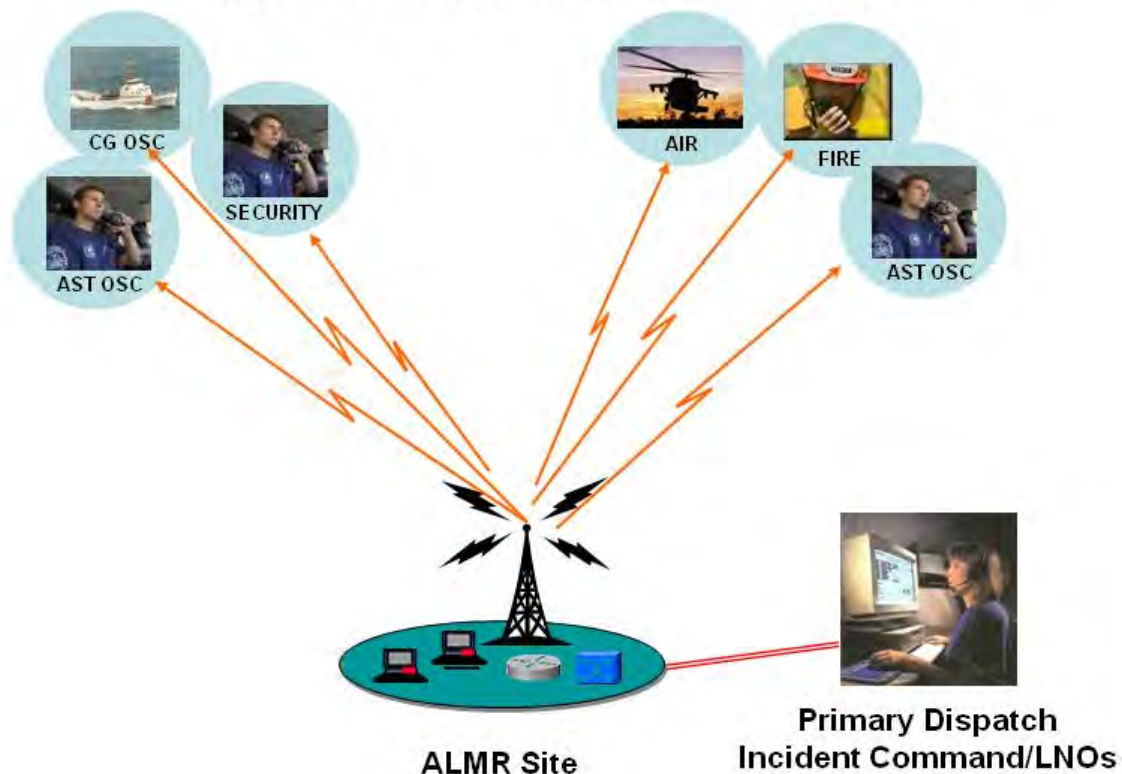
- Single Incident, Single Agency, Single Jurisdiction Scenario
 - Incident Commander (IC) contacts Dispatch
 - Incident Commander provides description of incident and requests support from specific agency
 - Dispatch assigns a local Incident Command talkgroup or simplex OP channel, for the operation
 - The agency dispatches team and notifies Incident Commander
 - The team and Incident Commander monitor the assigned talkgroup/simplex OP channel to incident completion
 - Incident Commander "knocks down" the assigned channel(s) with Dispatch at incident conclusion

INCIDENT COMMAND COMMUNICATIONS PROTOCOL SINGLE INCIDENT, SINGLE AGENCY



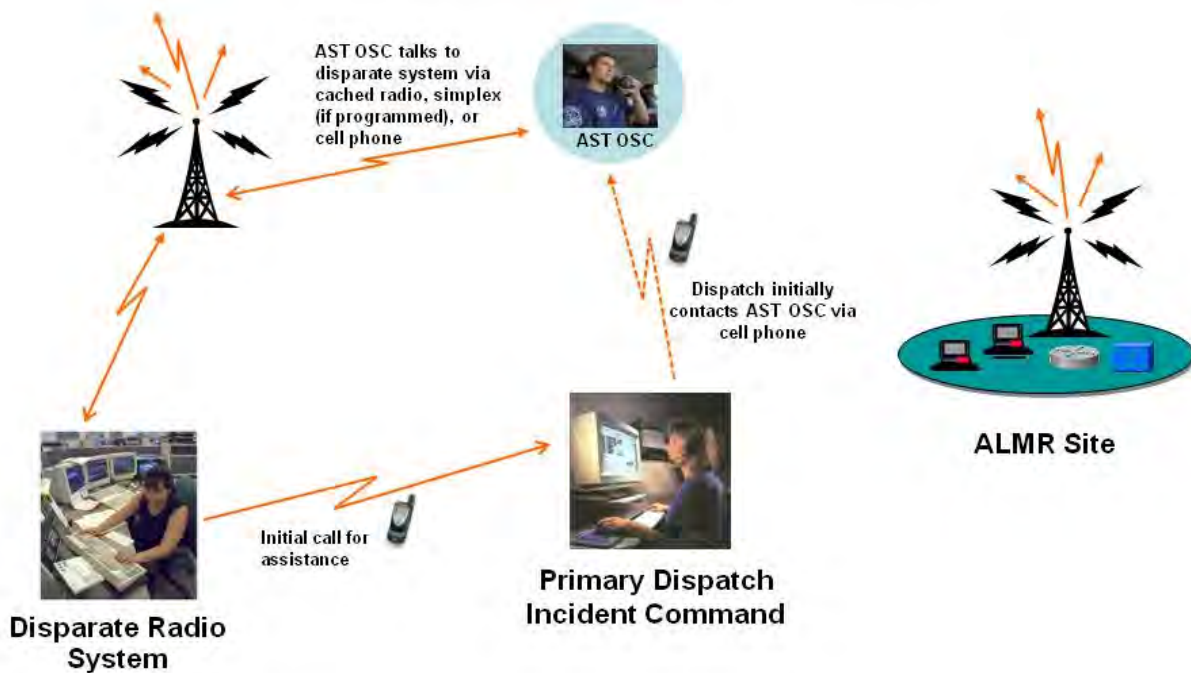
- Multiple Incident, Multiple Agency, Multiple Jurisdiction Scenario
 - On-Scene Commander contacts Incident Command and reports suspicious activity
 - Incident Command coordinates with agency; Incident Command Dispatch assigns the command and tactical talkgroups from the Region IC Zone, notifies On-Scene Commander
 - Dispatch notifies assigned agency to conduct "Command" operations on A-IC2 and "Tactical" operations on A-IC3, A-IC4, and A-IC5
 - Dispatch and Incident Command will monitor "Command" A-IC2.
 - A second incident occurs during the initial incident; the second On-Scene Commander contacts Incident Command and requests a one "Command" and two "Tactical" channels for the second incident
 - Incident Command coordinates with second On-Scene Commander and assigns "Command" to A-IC6 and "Tactical" to A-IC7 and A-IC8.
 - Dispatch and Incident Command monitor assigned "Command" channels (A-IC2 and A-IC6) to the incidents completion
 - Incident Commander "knocks down" the assigned channel(s) with Dispatch at incident conclusion

INCIDENT COMMAND COMMUNICATIONS PROTOCOL MULTIPLE INCIDENT, MULTIPLE AGENCY

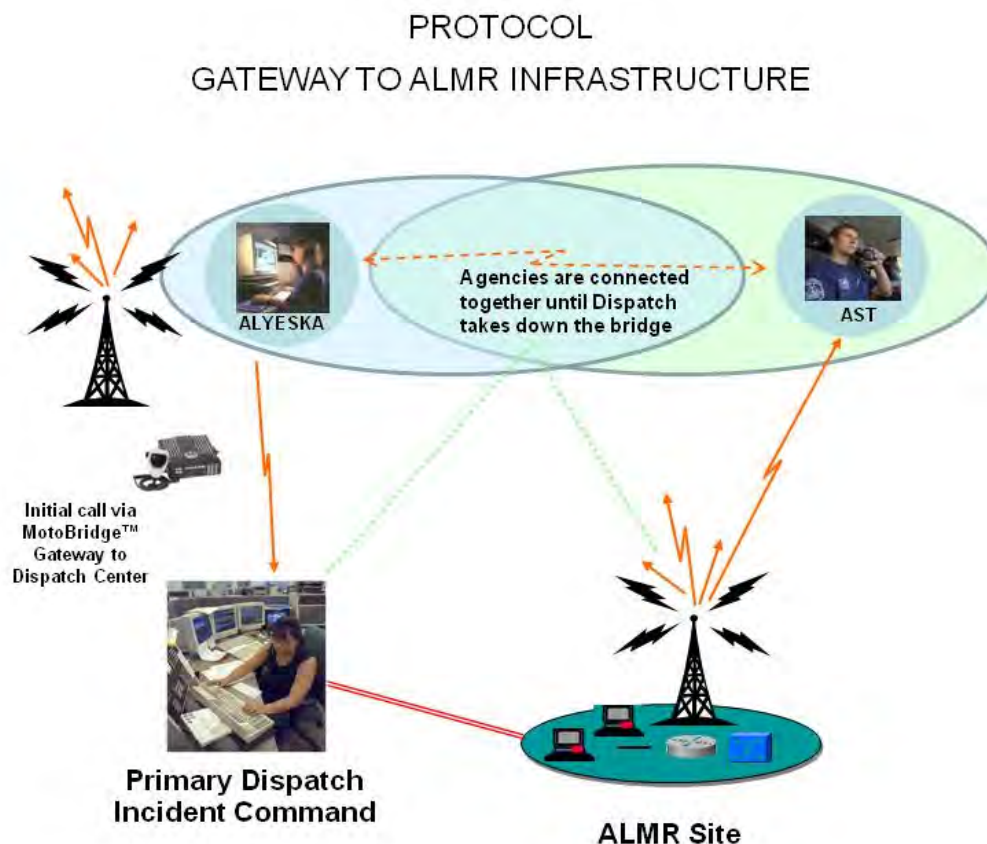


- Single Incident Scenario Outside ALMR Infrastructure
 - Incident Command receives call and determines the incident is outside of ALMR System coverage
 - Incident Command advises Alaska State Troopers (AST) dispatch
 - AST assigns an On-Scene Commander
 - Dispatch advise the On-Scene Commander to operate on SERT 1 for "Command" and a conventional talk around (TAC) for responder interoperability within the IC OP Zone
 - AST dispatch provides support requests to the Incident Commander through the State SECC, and forwards status of the incident

PROTOCOL
OUTSIDE OF ALMR INFRASTRUCTURE COVERAGE



- Scenario Using Gateway Interface to ALMR
 - On-Scene Commander/Alaska State Troopers request dispatch to establish a talkpath via MotoBridge® to an agency operating on a disparate radio system.
 - Dispatch determines if the agency operating the disparate radio system is a connected resource on the AIN (see NOTE below)
 - If not connected, Dispatch advises On-Scene Commander and alternate solution is determined
 - If connected, dispatch 'bridges' requesting agency to AST on the assigned talkgroup
 - On-scene Commander/AST "knocks down" the assigned channel(s) with Dispatch at incident conclusion



NOTE: To connect agencies operating on disparate radio systems, a donor radio and established Part 90 Agreement must be in place. If an outside agency does not have their radio integrated to the ALMR interoperability network, the use of simplex conventional channels must be used. (Refer to scenario where the IC OP Zone is used.)

5.2 Radio Transmission Protocols

The following radio transmission protocols were established for ALMR and should be followed to ensure coordinated and understandable instructions:

- Speak clearly/directly into the microphone from approximately 3 - 5 inches away
- Be concise and to the point
- Avoid the use of jargon; no use of ten-codes or military call signs
- Common/plain language should be used by agencies for day-to-day use and during IC responses and exercises
- Common/plain language is required during multi-agency, multi-jurisdictional events or exercises to avoid confusion among responders or exercise participants and controllers
- Be professional and courteous, and only use the System for official business

5.3 Tactical Interoperable Communications Plans

Tactical interoperable communications are defined as the rapid provision of on-scene, incident-based, mission critical voice communications among all first responder agencies (EMS, fire, law enforcement) as appropriate for the incident, and in support of ICS as defined in the NIMS model.

The Department of Homeland Security provides guidance and a template for the development of Tactical Interoperable Communications Plans (TICPs). The SOA Division of Homeland Security and Emergency Services is responsible for maintenance and update of the Regional TICPs.

- Region A - Haines, Juneau, Ketchikan, Petersburg, Sitka, Skagway and Wrangell
- Region B - Matanuska-Susitna Borough & Valdez
- Region C - Central West, Kodiak and Southwest Alaska
- Region D - Fairbanks North Star Borough and Fairbanks
- Region E - Kenai Peninsula Borough, Girdwood and Whittier
- Region F - Municipality Of Anchorage
- Region G - Arctic

TICPs are located at www.alaskalandmobileradio.org/documents.htm. TICPs are password protected and available to ALMR member agencies. You must contact the Operations Management Office to obtain the password.

6.0 Organization for Day-to-Day Operations and Maintenance

The Operations Management Office provides oversight of the day-to-day ALMR operational functions on behalf of all System users. The System Management Office ensures the System is consistently operating at peak efficiency.

6.1 Operations Management Office

The OMO has oversight of the operation and maintenance of ALMR. As the designated agent for the EC, the Operations Manager has the authority to represent EC and UC interests and make decisions on issues related to the routine operations, as well as any urgent or emergency system operational issues or repair decisions.

Specific responsibilities are outlined in the OMO Customer Support Plan located at www.alaskalandmobileradio.org/documents.htm.

6.2 System Management Office

The SMO oversees the day-to-day technical management, operation and oversight of the System and ensures that ALMR meets the users' needs.

Specific responsibilities are outlined in the SMO Customer Support Plan located at www.alaskalandmobileradio.org/documents.htm.

6.3 System Partners/Users

SOA, DOD, Federal Non-DOD and MOA/local/tribal users will staff their agencies according to their specific mission requirements and level of ALMR System involvement.

7.0 Exercises and Training

ALMR stakeholders/user agencies should conduct regular, comprehensive, statewide and regional training exercises, which serve as proofs of concept and validation of their standardized protocols, operating procedures and processes.

Recommended intra-agency training activities should also include:

- Recurring training of end users on mobiles and portables utilizing a standardized training plan
- Recurring training of dispatchers on console operations using ALMR, as appropriate
- Training with partnering organizations on a regular basis
- Training of technicians in maintenance and repair of agency-owned equipment

8.0 Conclusion

The philosophy behind interoperable communications and the cornerstone of ALMR is to "train the way we fight." By using a standardized system for day-to-day operations and a defined set of procedures, transitioning during an emergency incident becomes a seamless effort for participating agencies.

This CONOP gives a high-level view of many of the areas to be addressed in order to see the big picture for Alaska first responders. It is not an all-inclusive document and will be reviewed periodically for update.

The UC shall be responsible for the formal approval of the ALMR CONOP document and any substantial revisions hereafter.