Alaska Land Mobile Radio Communications System

Service Level Agreement

Version 2

November 19, 2015

NOTE: Effective July 1, 2012, response times and service levels changed regarding all State of Alaska (SOA)-owned ALMR radio frequency (RF) equipment. Areas highlighted in gray are affected by this change. Associated changes are also listed at Addendum A.

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Document Revision History

Name	Date	Reason for Changes	Version
Shafer, Sherry	9/7/11	With the transfer of the USARAK RF equipment from the initial 13 sites, For the period of July 1 - December 31, 2011, response times and service levels have changed regarding all State of Alaska (SOA)-owned radio frequency (RF) equipment, as well as USARAK RF equipment at certain SOA sites. (see Addendum A)	N/A
Shafer, Sherry	7/1/12	With the transfer of the USARAK RF equipment at the remaining 28 sites, response times and service levels have changed regarding all State of Alaska (SOA)-owned ALMR radio frequency (RF) equipment. (see Addendum A)	N/A
Shafer, Sherry	1/15/2015	Review and update approved by the User Council on November 5, 2014, and the Executive Council on January 15, 2015.	V2

Acronyms and Definitions

Agreement: shortened term used to refer to the Cooperative Agreement, Service Level Agreement or Membership Agreement within each associated document after the initial use.

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 local governments.

Cooperative 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.

Codeplug: the software programmed in a radio that controls the radio's functions and communication capabilities.

DIACAP: the Department of Defense Information Assurance Certification and Accreditation Process (DIACAP) that helps Users and information security officers ensure information systems operate at an acceptable level of risk. As defined in guidance contained in Department of Defense Instruction 8500.1, Cybersecurity, March 14, 2014, and DODI 8500.2, Information Assurance (IA) Implementation (cancelled), February 6, 2003. **NOTE**: DOD is replacing the DIACAP with a NIST-type accreditation process called Defense Information Assurance Risk Management Framework (DIARMF). ALMR is grandfathered under the old process until mandated by DOD to go to the DIARMF.

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.

DS0: Digital Signal 0 – the lowest Digital Signal or Data Service level having a transmission rate of 64,000 bits per second (64 kb/s), intended to carry one voice channel (a phone call).

Emergency Alarm: a Project 25 feature that, when enabled, allows a User to transmit an emergency alarm.

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, Non-DOD Federal 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(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 Executive Council and the User. The Membership agreement sets forth the terms and conditions under which the System provides services to the User.

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 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 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 policies, 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.

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

State of Alaska (SOA): the primary maintainer of the SATS (the State's microwave system), and shared owner of 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 Agreement, and any and all System Design/System Analysis (SD/SA) and System Design/System Implementation (SD/SI) documents.

System Management Office: the team of specialists responsible for management of operations of the System.

Sustained Operations and Maintenance (O&M): declaration by the Executive Council that the System is ready and capable to support real-time, on-demand and secure public safety communications, and has received Authority to Operate through certification and accreditation under DIACAP and other appropriate security programs.

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

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 one's transmission. When the person is finished with one's 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 probably of not having access to a channel.

User/Member: an agency, person, group, organization or other entitywhich 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 Overview

The Alaska Land Mobile Radio (ALMR) Communications System is a digital trunked, wide-area network (WAN) shared system between the Department of Defense (DOD), the State of Alaska (SOA) and other Federal and local government agencies. The fundamental objective of the ALMR Communications System, hereafter referred to as the "System," is to provide reliable and secure interoperable communications for first responders especially during emergencies, critical situations and multiple agency exercises.

This Service Level Agreement (SLA) outlines the operations and maintenance (O&M) services required for the System infrastructure located at sites. Execution of the services in support of this SLA will be by qualified personnel who have Original Equipment Manufacturer (OEM) technical training and equipment to deliver required System infrastructure O&M services. Transportation, tools, materials, technical support and other items necessary to conform to this SLA are required services. This SLA applies to the supporting organization, and any vendors or sub-contractors engaged to fulfill the requirements of this SLA.

The SLA will govern the maintenance of System equipment, as defined within, to the level of performance indicated, effective the date of final signature or any revisions, hereafter. The System includes the land mobile radio system, communications transport network, supporting sites and site support equipment. Specific details follow at Section 2.

1.1 Introduction

The services detailed in this SLA are provided by the System Management Office (SMO)) to the User Council in support of network, infrastructure, assets, configuration, security and user management and support. Appendix B contains a list of the processes that make up the SMO approach to O&M of the System.

1.2 Not in Scope

The following components are not included in the scope of this SLA: subscriber units, mobile units and consolettes. As such, the maintenance effort and related costs for these components are the responsibility of the respective users that own/operate them.

The State of Alaska Telecommunications System (SATS) O&M costs and related SATS components are also not covered by this SLA. The value of the bandwidth provided by SATS, and used by the System, will be addressed from the perspective of cost and quality only.

2.0 System Description

The System is a Motorola ASTRO 25™ Digital Trunking WAN SmartZone solution that consists of the System infrastructure and multiple subsystems, as described below.

2.1 System Equipment

The System is a multiple-zone design that is divided into two zones. All sites south of the Denali Highway are in Zone 1, while those sites north of the Denali Highway are in Zone 2. Each zone has a Master Site and a number of radio frequency (RF) sites. The Master Site for Zone 1 is located in Anchorage at Tudor Road. The Master Site for Zone 2 is located in Fairbanks on Fort Wainwright at Birch Hill.

2.1.1 Master Sites

The Tudor Road Master Site for Zone 1 serves as a core network center for the entire SmartZone system. Data packets from the various System sites are routed through, and processed from, this network center. The user configuration server for the System is located at the Zone 1 Master Site. The Tudor Road site is interconnected to the Zone 2 Master Site at Birch Hill via ethernet originating and terminating into exit routers at each end.

The Birch Hill SmartZone Master Site as Zone 2 serves as a core network center for Zone 2. Data packets from the various System sites are routed through and processed from this network center.

Equipment associated with each Master Site includes a primary and redundant Zone Controller, the main Ethernet switch, core, gateway and exit routers, and zone database, system level and network security servers. Both Master Sites also include a console subsystem consisting of a Motorola Gold Elite Gateway (MGEG), an ambassador electronics bank (AEB), and a central electronics bank (CEB) with associated base interface modules (BIMs).

The Anchorage Zone Controller (Zone 4) servicing the Municipality of Anchorage (MOA) - Anchorage Wide Area Radio Network (AWARN). This zone provides interoperability between the ALMR very high frequency (VHF) and AWARN 700 MHz digital trunked talkgroups.

2.1.2 Radio Frequency (RF) Site Equipment

The RF site equipment includes a quantity of Motorola Quantar® IntelliSite Repeaters, GTR8000s, redundant site controllers, redundant Ethernet switches and routers to interface the data packets to the SmartZone Master Sites. The RF equipment includes the associated multi-coupler, combiner, antenna system, Motorola System Control and Data (MOSCAD) fault alarm system and 48 VDC power supplies. For purposes of this SLA, this category also includes bi-directional amplifier (BDA) systems that support

wide-area connectivity and the associated RF antenna systems consisting of transmit and receive antennas, coaxial cables, lightning arrestors, grounding kits and mounting brackets/other fasteners.

2.2 Subsystem Equipment

Subsystem equipment connects directly to the System or enhances the System functionality. These subsystems include dispatch consoles, CEBs, Key Management Facilities (KMFs), Network Management Terminals (NMTs), telephone interconnect systems, logging recorders, data servers and BDAs that apply to a specific building.

2.2.1 Console System

Console systems are made up of remote or local dispatch console positions and the CEB. The console positions can be connected to a CEB located at the zone controller or a CEB at the agency location. It takes one T1 (24 Digital Signal 0s, i.e. DS0s) to connect a CEB to the AEB at the zone controller. It takes three DS0s per remote console position to connect to the CEB. An additional ten DS0s are required for console programming regardless of the CEB location.

2.2.1.1 Consoles can also operate using control stations to access the System. Consoles using this configuration do not connect to a CEB and do not have any remote connectivity requirements. Rather, the control stations provide a wireless connection to the System

2.2.1.2 Some agencies have chosen to install bulk encryption equipment to encrypt the links between the CEB and the console positions, and the CEB and AEB. This equipment does not increase the bandwidth requirement.

2.2.1.3 The BIM cards installed in the CEB allow conventional radio resources like base stations and air-to-ground radios to be used by the console dispatcher along with trunked talk groups. This capability provides System interoperability with conventional radio systems through a patch, or by communicating directly with non-System radios.

2.2.1.4 Tie trunks are connections between two BIM cards in different CEBs. These can be permanent or temporary patches that link different dispatch systems and their associated resources.

2.2.2 Key Management Facility

The Motorola™ ASTRO 25 system allows two-way radio transmissions to be encrypted and secure. The Key Management Facility (KMF) is a solution for centralized key management and over-the-Air-rekeying (OTAR). The KMF equipment includes a KMF application server, KMF database server and KMF client.

2.2.3 Network Management Terminals

Network Management Terminals (NMTs) are consoles that connect to the System. The NMT is used by authorized agencies, the System Manager and technologists to manage their radio fleet, units and configurations. While NMTs can be utilized to manage and operate more than one agency's System operations, they are usually controlled by one Agency.

2.2.4 Telephone Interconnect

The telephone interconnect subsystem provides a means to connect the System with the Public Switched Telephone Network (PSTN) allowing properly programmed System subscriber radios to initiate and receive half-duplex telephone calls. Telephone interconnectivity is not considered a critical service. The telephone interconnect system is located at the Zone 2 Master Site at Birch Hill.

2.2.5 Logging Recorder

Voice logging recorders are directly associated with the console system at a particular dispatch location.

2.2.6 Data Server

Includes all equipment associated with the integrated voice and data servers which can provide data over the internet protocol (IP) network.

2.2.7 Bi-Directional Amplifier

Bi-directional amplifiers (BDAs) extend coverage into, or within, a particular facility or tunnel by repeating transmissions to and from an available donor RF site. BDAs for infrastructure sites are addressed under the RF site equipment category.

2.3 MotoBridge® Gateway System

ALMR has installed a Motorola™ MotoBridge® gateway network that has connectivity to System talk groups, but it is separate from the System network. It is on a State of Alaska local area network (LAN) with connectivity through SATS.

The MotoBridge® system, known as the Alaska Interoperability Network (AIN), provides interoperability between various communications networks with a radio-over-IP system. Central management of the AIN System is provided by dual-redundant management servers located in Fairbanks and Anchorage. Other components consist of dispatch positions with Work Station Gateway Units (WSGU) and computer consoles for linking conventional and trunked two-way radio systems together, and Radio Gateway Units (RGU) that physically tie the dissimilar radio resources to the network.

2.3.1 Operations Management Center Server

The Operations Management Center (OMC) Server is the main management server in the System and a central repository where all System users and resources (i.e. administrators, dispatchers and radios) are registered, and where System-wide information (i.e. active patches and conferences, security parameters, etc.) is stored. The OMC Server runs on the Red Hat Linux operating system. A user-level interface to the OMC Server is provided by the Administrator Control Panel (ACP) Client PC. The primary OMC Server is located in Zone 1 at the Anchorage Emergency Operations Center (EOC) and the secondary OMC Server is located in Zone 2 at the Fairbanks EOC.

2.3.2 Administrator Control Panel

The Administrator Control Panel (ACP) Client PC allows an administrator, located anywhere in the System, to perform management activities for the System. The ACP Client PC runs on the Microsoft operating system. An ACP Client PC is located with each of the OMC servers.

2.3.3 Session Initiation Protocol Proxy Server

The Session Initiation Protocol (SIP) Proxy Server is a signaling server for establishing talk paths (calls) across the system. The SIP Proxy Server complies with international standards for multimedia call routing and telephony services in the Internet. The SIP Proxy Server interacts with the gateway units in the System, which implements the SIP user-agent portion of the standard. The SIP Proxy Server runs on the Red Hat Linux operating system.

2.3.4 Radio Gateway Unit and WorkStation Gateway Unit

The Radio Gateway Unit (RGU) and Workstation Gateway Unit (WSGU) are based on one hardware platform which can be configured to serve as either a RGU or a WSGU. The RGU connects radio equipment to the System. The WSGU interfaces with the Dispatch Console PC. .3.5 The Dispatch Console Personal Computer

The Dispatch Console personal computer (PC) enables a dispatcher to activate the WSGU, which allows control over a large number of connected remote radios, intercom connections, audio conferences and phone calls. The Dispatch Console PC runs on the Microsoft operating system.

2.4 Site Equipment

Major components of the System are the remote equipment sites, as identified at Appendix A. Without appropriate site and supporting equipment, the System will not function properly. The supporting site equipment includes communication equipment shelters, transmission towers, site/backup power and site physical area.

2.4.1 Shelters

This category includes all stand-alone shelters, both pre-fabricated and stick-built, used for housing System and associated communication equipment. For areas within existing buildings, this also includes required improvements to the rooms where the System and associated communications equipment is housed. Components in the shelters include racks, internal wiring, external ice bridges, foundations and leveling, exterior lighting, air conditioners, louvers, fans and door locks.

2.4.2 Towers

This category includes all components of the tower including the foundation, frame and ladders, painting, guys (as applicable), beacons, foundations and anchors.

2.4.3 Site/Back-Up Power

This category includes the distribution panel for external power, inverters, battery plants, battery chargers and generators. Also included are generator fuel tanks, generator enclosures and exhaust piping. All internal and external grounding must be in working order and maintained through the life of System usage. This category includes backup generators and uninterrupted power source (UPS) systems associated with the Zone Controllers.

2.4.4 Site Physical Area

This category includes all activities for the right-of-way and the area surrounding the structure for which the System is responsible. This would include grading, plowing and graveling access roads, brushing, mowing and fencing around the area where the shelter and tower are located.

2.4.5 Equipment and Site Grounding

All site equipment shall be bonded together to form a single common earth ground electrode system as outlined in the Motorola “R56 - Standards and Guidelines for Communication Systems.” All internal and external grounding must be in working order and maintained through the life of System usage.

2.5 Transportable/Deployable Systems

The System includes two transportable/deployable systems. The transportables are designed to function as stand-alone systems or can connect with, and be an integral part of, the System. Each transportable/deployable consists of multiple modules that can be transported via tractor-trailer, C-130/similar-sized cargo plane or Chinook/similar-sized helicopter.

Transportable Area South (TAS) encompasses all five modules, while Transportable Area North (TAN) does not include the 4.5 Meter C-Band Satellite Earth Station Antenna Skid or the Logistics Skid. Only the modules required for the mission will be transported for set up.

2.5.1 Module One – Communication Shelter

The communications shelter module is approximately 9 feet wide by 16 feet long by 9 feet high. It contains a five-channel RF site, satellite control interface, an unlicensed 5.8 GHz microwave radio, a CEB and a 48 VDC battery plant for 8 hours run time.

2.5.2 Module Two – Dispatch Shelter

The dispatch shelter is approximately 9 feet wide by 16 feet long by 9 feet high. It contains one Motorola Gold Elite console position and a MotoBridge® OMC, conventional UHF and VHF radios, marine band and air-to-ground radios, a MotoBridge® RGU, ACP, SIP server, WSGU and dispatch position.

2.5.3 Module Three – Tower/Power Skid

The tower/power skid is approximately 9 feet wide by 20 feet long and contains a 35KW self-contained diesel generator and integral fuel tank for three continuous days of operation at half load. It also contains a 50-foot powered crank-up tower. It has permanently mounted antennas for the RF site and two conventional frequencies.

2.5.4 Module Four – C-Band Satellite Earth Station Antenna Skid

A C-Band transportable earth station is provided with an Andrew 4.5 Meter Tri-Fold antenna mounted on a trailer/skid approximately 9 feet wide by 20 feet long.

2.5.5 Module Five – Logistics Skid

The logistics skid is utilized to store ancillary equipment that supports the transportable system for, and during, deployment. It also serves as a facility for maintenance operations while in the deployed state. The logistics skid measures 9 feet wide, by 20 feet long, by 9 feet high.

2.5.6 Transporter – The Transporter is a tracked, all-terrain trailer used to transport the modules short distances, move the modules from hot storage, stage modules for deployment and place the modules back into their original configuration upon redeployment (North and South Zone).

2.5.7 Tug

The Tug is a 2007 Ford F350, Bobtail, capable of towing 30K pounds at 25 mph.

2.5.8 Deployable Shelter System

The shelter provides a fast, easy, durable and versatile structure for first responders, command posts, operations centers or other remote operations.

2.6 Communications Transport Network

All voice and data signals that are carried on the System are transported to the Zone 1 Master Controller at Tudor Road through SATS. SATS is comprised of multiple methods of network connectivity to include microwave, commercially leased T1s and local fiber networks. In some locations, the connectivity links are encrypted utilizing bulk encryption equipment.

The System channel banks provide a connectivity gateway from the System central controllers to the remote RF sites. The channel banks provide individual Channel Service Units (CSU) to each remote site location and link them to the Master Site zone controller.

2.7 Administration/Management

The System will be comprised of a number of full-time, permanent employees to maintain System administration, management and service. Job descriptions and duties for administration personnel are outlined at Appendix B.

2.7.1 General Administration

The Operations Manager will oversee all general administration activities as outlined at Appendix C.

2.7.2 Support - User Council

2.7.2.1 The Operations Manager (OM) will attend monthly meetings, or more often as requested, with the User Council and with designated representatives of System user groups to understand new communication needs and to communicate System information, conduct fleet map work sessions, and address questions, complaints or provide clarifications about the System and other topics, as requested.

2.7.3 Support - Technology Planning

2.7.3.1 The OM will keep abreast of new technology developments, advancements, announcements, standards and operational best practices in LMR-related technology.

2.7.3.2 The OM will report and meet periodically with the appropriate User Council personnel to discuss and evaluate new technology for applicability to the System. The OM, or his/her designated representative, will be present during System equipment

testing or product reviews at the designated user facility and facilitate the test plan (if requested), check off procedures and the sign off documents.

2.7.3.3 An important initial consideration in enhancing the management of an existing wireless network is the condition, design and operations of the current wireless equipment. The OM will work closely with users to evaluate the current state of operations, equipment capabilities and recommend changes to User Council for improved management and operations of the System, as necessary.

2.7.3.4 The OM working with the User Council will assess the goals and objectives of the System to identify the role radio communications plays in achieving the desired System operational objectives. Some of the activities that will be involved in the strategic technology planning process include, but are not limited to:

2.7.3.4.1 Review currently available wireless technologies in the industry and evaluate their applicability to System functional, technical and agency requirements.

2.7.3.4.2 Evaluate changing technical and applicable User Council mission requirements to recommend how the System can be used more effectively.

2.7.3.4.3 Develop a plan in cooperation with the User Council for the necessary modification of hardware/software of the existing wireless System equipment.

2.7.4 Management Processes

Management and operational processes and procedures required for the smooth operation of the System are outlined at Appendix C.

2.7.5 System Management Services

The roles and responsibilities of the System Manager and the support staff are defined in Section 3.3 of this SLA and further outlined in the System Management Office (SMO) Customer Support Plan (CSP).

3.0 Service Level Requirements

The System is utilized by first responders and other public safety entities. It also supports day-to-day operations of member agencies. It is imperative that all components, including equipment and connectivity, are maintained at consistent operational levels and available for day-to-day and emergency use.

3.1 Maintenance Levels

Acceptable maintenance levels are defined by the criticality of the equipment. The following is a generic description of each level.

Tables 3.1 through 3.7 describe each major System component category, define the performance measure, and identify the three maintenance levels.

3.1.1 Level A. This is the highest level of maintenance. In general, this is the maintenance level that is currently being provided under the existing maintenance contract.

3.1.2 Level B. This is the mid-range level of maintenance that may be desirable based on cost and the criticality of the asset to which it applies.

3.1.3 Level C. This is the lowest acceptable level of maintenance. In most cases, this level will not be chosen unless the cost of Levels A and B are prohibitive.

3.1.4 The last column of the tables indicates whether the costs will be shared by all users or paid by the owners of the equipment. A further description and rationale for the cost sharing approach is provided in Section 4.0.

3.1.5 Concurrently, there will be only one service level for each System component. Service level definitions are identified in Table 3.8. This defines the response time for repair/restoration of the system component. The service level will be selected by the User Council based on cost and the desired level of service. This service level will be revisited annually, and adjusted to meet the current operational and financial needs of the user.

Table 3-1 System Equipment

System Equipment	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Master Site - Zone Controllers Master Site zone controllers are the brains of the System. Each Master Site has two redundant zone controllers, which minimizes site failures. If a Master Site does fail, the RF sites in the associated zone will go into site-trunking mode. The other zone will continue normal operations for the sites in that zone. Cross-zone, wide-area dispatch will be lost. *The Municipality of Anchorage Wide-Area Network (AWARN) Zone Controller	**% Customer Desired Uptime** **Severity Level Response**	**99.999%** **Refer to Table in Section 3.8**	**99.99%**	**99.9%**	**Shared** ***Paid by Owners**
Radio Frequency (RF) Site Equipment RF site equipment provides transmission and receiving capabilities for a particular coverage area that links subscriber equipment with the zone controller, and back to dispatch centers and other subscriber equipment. This category also includes infrastructure and RF antenna systems.	**% Customer Desired Uptime** **Severity Level Response**	**99.999%** **Refer to Table in Section 3.8**	**99.99%**	**99.9%**	**Shared**

Table 3-2 Subsystem Equipment

Subsystem Equipment	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Console System The console system links dispatch consoles to the System. When the console system is not functioning, dispatchers cannot communicate to subscribers over the System. This can be mitigated by use of consolettes as a backup.	**% Scheduled Uptime**	**99.999%**	**99.99%**	**99.9%**	**Paid by Console Owners**
Key Management Facility (KMF) The KMF system distributes keys over the air to enabled and authorized subscriber equipment. Failure of the KMF system may result in incompatible keys among subscriber units, preventing encrypted communication. A backup mechanism is manually keying the radios. KMF costs include both operations and connectivity.	**% Scheduled Uptime**	**99.99%**	**99.9%**	**99%**	**Shared cost for SMO controlled KMF** **DOD KMF is not a shared cost.**
Network Management Terminals Network management terminals allow System Managers and Technicians to manage and control the System.	**% Scheduled Uptime**	**99.99%**	**99.9%**	**99.9%**	**Agencies Connected to Zone Controllers Shared** **All Others Paid by Owners**

Subsystem Equipment	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Telephone Interconnect Telephone interconnect is an optional feature that blends LMR and the PSTN into a single capability. This capability can be replaced by cellular or land-line telephones where coverage exists.	**Not a Critical Service**	**N/A**	**N/A**	**N/A**	**Paid by Owners**
Logging Recorders Logging recorders are installed to keep track of/record conversations for response and liability purposes. They require the same level of availability as the System itself.	**% Scheduled Uptime**	**99.999%**	**99.99%**	**99.9%**	**Paid by Owners**
Data Servers Data servers are designed to provide supporting information. They are not currently deployed, but are planned for the Department of Transportation Public Facilities (DOT&PF) and the Alaska State Troopers (AST). If not available, this information can be provided through dispatch.	**% Scheduled Uptime**	**99%**	**N/A**	**N/A**	**Paid by Owners**
Bi-Directional Amplifiers (BDAs) BDAs provide RF coverage in locations that have little to no coverage. Since BDA performance cannot be tracked unless the user is physically present at that location, responses will have to be on a break-fix basis.	**Preventive Maintenance Inspection**	**Annual**	**N/A**	**N/A**	**Building Specific** **Paid by Owners**

Table 3-3 MotoBridge® Gateway System

MotoBridge® Gateway System	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
OMC/ACP/SIP The OMC/ACP/SIP may need to support critical operations and will need a high level of availability. Initially, an annual Preventive Maintenance Inspection (PMI) will be conducted to fully evaluate the operational readiness of the equipment. As use of these components expands, they will move to a percentage uptime status.	**Migrate to % Uptime As use Dictates**	**99.99%**	**99.9%**	**99%**	**Shared**
WSGU/Dispatch Console MotoBridge® WSGU/dispatch console resources will be used on an as-needed basis. Failures will be addressed on a break-fix basis for each particular location. An annual PMI will be conducted to fully evaluate the operational readiness of the equipment. Deviations identified during the PMI will be corrected within 90 days**.**	**Migrate to % Uptime As use Dictates**	**99.99**	**99.99**	**99.9**	**Paid by Owners**
RGU/Radio Resources MotoBridge® RGU/radio resources will be used on an as-needed basis. Failures will be addressed on a break-fix basis for each particular location. An annual PMI will be conducted to fully evaluate the operational readiness of the equipment. Deviations identified during the PMI will be corrected within 90 days.	**Migrate to % Uptime As use Dictates**	**Annual**	**N/A**	**N/A**	**Paid by Owners**

Table 3-4 Site Equipment

Site Equipment	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Shelters Shelters will be maintained as outlined in the Motorola "R56-Standards and Guidelines for Communication Systems," and as amended and agreed upon by the User Council. This does not apply to third-party commercial providers, however it is expected that they would have a defined reasonable standard to which they adhere. An audit checklist will be completed during the annual PMI. Deviations identified during the PMI should be corrected within 90 days.	**Preventive Maintenance Inspection** **Winterization**	**Annual** **Annual or More Often, as Needed**	**N/A**	**N/A**	**Paid by Owners**
Towers Towers will be maintained as outlined in the Motorola "R56-Standards and Guidelines for Communication Systems," and as amended and agreed upon by the User Council. This does not apply to third-party commercial providers, however it is expected that they would have a defined reasonable standard to which they adhere. An audit checklist will be completed during the annual PMI. Deviations identified during the PMI should be corrected within 90 days.	**Preventive Maintenance Inspection** **Winterization**	**Annual** **Annual or More Often, as Needed**	**N/A**	**N/A**	**Paid by Owners**

Site Equipment	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Site/Back-Up Power Site/back-up power, including panels, chargers, batteries and generators, will be maintained as outlined in the Motorola "R56-Standards and Guidelines for Communication Systems," and as amended and agreed upon by the User Council. This does not apply to third-party commercial providers. However, it is expected that they would have a defined reasonable standard to which they adhere. An audit checklist will be completed during the annual PMI. Deviations identified during the PMI should be corrected within 90 days.	**Preventive Maintenance Inspection** **Winterization**	**Annual** **Annual or More Often, as Needed**	**N/A**	**N/A**	**Paid by Owners**
Site Physical Area The site physical area will be maintained as outlined in the Motorola "R56-Standards and Guidelines for Communication Systems" and as amended and agreed upon by the User Council. This does not apply to third-party commercial providers. However, it is expected that they would have a defined reasonable standard to which they adhere. An audit checklist will be completed during the annual PMI. Deviations identified during the PMI should be corrected within 90 days.	**Preventive Maintenance Inspection** **Winterization**	**Annual** **Annual or More Often, as Needed**	**N/A**	**N/A**	**Paid by Owners**

Site Equipment	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Equipment and Site Grounding Equipment and site grounding will be maintained as outlined in the Motorola "R56-Standards and Guidelines for Communication Systems," and as amended and agreed upon by the User Council. This does not apply to third-party commercial providers. However, it is expected that they would have a defined reasonable standard to which they adhere. An audit checklist will be completed during the annual PMI. Deviations identified during the PMI should be corrected within 90 days.	**Preventive Maintenance Inspection** **Winterization**	**Annual** **Annual or More Often, As Needed**	**N/A**	**N/A**	**Paid by Owners**

Table 3-5 Transportable/Deployable Systems

Transportable/Deployable System	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Communication Shelter The components of the transportable/deployable systems will be kept in a ready state that can be prepared for deployment in 24 hours and setup on site within 4 hours of arrival. Specific procedures to achieve this state of readiness will be developed and implemented by the vendor.	**Prepared for Deployment** **Setup On Site**	**24 Hours** **4 Hours**	**N/A**	**N/A**	**Paid by Owners**
Dispatch Shelter The components of the transportable/deployable systems will be kept in a ready state that can be prepared for deployment in 24 hours and setup on site within 4 hours of arrival. Specific procedures to achieve this state of readiness will be developed and implemented by the vendor.	**Prepared for Deployment** **Setup On Site**	**24 Hours** **4 Hours**	**N/A**	**N/A**	**Paid by Owners**
Tower/Power Skid The components of the transportable/deployable systems will be kept in a ready state that can be prepared for deployment in 24 hours and setup on site within 4 hours of arrival. Specific procedures to achieve this state of readiness will be developed and implemented by the vendor.	**Prepared for Deployment** **Setup On Site**	**24 Hours** **4 Hours**	**N/A**	**N/A**	**Paid by Owners**

Transportable/Deployable System	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Logistics Skid The components of transportable/deployable systems will be kept in a ready state that can be prepared for deployment in 24 hours and setup on site within 4 hours of arrival. Specific procedures to achieve this state of readiness will be developed and implemented by the vendor.	**Prepared for Deployment** **Setup On Site**	**24 Hours** **4 Hours**	**N/A**	**N/A**	**Paid by Owners**
Meter C-Band Satellite Earth Station Antenna Skid The components of transportable/deployable systems will be kept in a ready state that can be prepared for deployment in 24 hours and setup on site within 4 hours of arrival. Specific procedures to achieve this state of readiness will be developed and implemented by the vendor.	**Prepared for Deployment** **Setup On Site**	**24 Hours** **4 Hours**	**N/A**	**N/A**	**Paid by Owners**

Table 3-6 Communications Transport Network

Communications Transport Network	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
SATS The communications transport network is required to have the same availability as the zone controllers and the RF equipment. Without SATS, System usage is impaired.	**% Customer Desired Uptime** **Severity Level Response**	**99.999%** **Refer to Table in Section 3.8**	**99.99%**	**99.9%**	**Infrastructure (Actual Usage) Shared** **Console Connectivity (Actual Usage) Paid by Owners**
Commercial Leased Circuits The communications transport network is required to have the same availability as the zone controllers and the RF equipment. Without the dedicated transport resources, System usage is impaired.	**% Customer Desired Uptime** **Severity Level Response**	**99.999%** **Refer to Table in Section 3.8**	**99.99%**	**99.9%**	**Infrastructure (Actual Usage) Shared** **Console Connectivity (Actual Usage) Paid by Owners**
User Provided The communications transport network is required to have the same availability as the zone controllers and the RF equipment. Without the user-provided transport, System usage is impaired.	**% Customer Desired Uptime** **Severity Level Response**	**99.999%** **Refer to Table in Section 3.8**	**99.99%**	**99.9%**	**Infrastructure (Actual Usage) Shared** **Console Connectivity (Actual Usage) Paid by Owners**

Table 3.7 Operations/Management

Operations/Management	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
General Administration The roles and responsibilities of the Operations Manager are defined in Appendix B, Section 3, of this SLA. These roles and responsibilities are further outlined in the Operations Management Office (OMO) Customer Support Plan (CSP).	**OMO CSP**	**Annual**	**N/A**	**N/A**	**Shared**
Support - User Council The Operations Manager will meet monthly with the User Council to address service levels and user issues. A monthly report will be presented addressing System performance and outages.	**Attend Meeting and Prepare Report**	**Monthly**	**N/A**	**N/A**	**Shared**
Support - Technology Planning The Operations Manager is required to continually assess the System technology versus those in the marketplace and ensure that the System is kept technically current. A report on this assessment will be prepared and presented to the User Council annually.	**Technology Assessment and Plan**	**Annual**	**N/A**	**N/A**	**Shared**

Operations / Management	Measure	Maintenance Level A	Maintenance Level B	Maintenance Level C	Proposed Cost Share
Management Processes The management processes that fall under this SLA are itemized at Appendix C. These processes are outlined in the OMO CSP.	**Management Process - OMO CSP**	**Monthly**	**N/A**	**N/A**	**Shared**
System Management Services The roles and responsibilities of the System Manager are defined in Appendix B, Section 4 of this SLA. These roles and responsibilities are further outlined in the SMOCSP.	**System Manager - SMO CSP**	**Monthly**	**N/A**	**N/A**	**Shared**

Table 3-8 Service Level Definitions

SEVERITY LEVEL	REMOTE TELEPHONE TECHNICAL SUPPORT RESPONSE TIMES	ON-SITE TECHNICAL RESPONSE TIME*	ON-SITE TECHNICAL REPAIR TIME*	PROBLEM TYPES	METRIC
Severity 1**	Within 1 hour from receipt of notification**	Within 4 hours from receipt of notification**	Within 4 hours from technical response**	Mission Critical: Major System failure – 33 % of system down; 33 %of site channels down; failure of the Master Site Controller or loss of an entire repeater site. Site environment alarms (smoke, access, temp, AC Power)	99.999%
Severity 2**	Within 4 hours from receipt of notification***	Within 4 hours from receipt of notification***	Within 4 hours from technical response***	Significant system impairment – not to exceed 33% of the system down	99.99%
Severity 3***	Within next business day	Within 24 hours from receipt of notification***	Within 24 hours from technical response***	Intermittent System issues – Parts questions; upgrades information questions; preventive maintenance. This level is meant to represent a minor issue that does not preclude use of the system, subsystem, product, or critical features.	99.9%
Severity 4***	As Scheduled***	As Scheduled***	As Scheduled***	Scheduled Maintenance – Scheduled Upgrades	99%

** May not apply in cases of inclement weather and/or subject to availability of specialty transportation*
*** Applicable 24 hours/day, 365 days/year*
**** During standard business hours 7:30 a.m. – 4:30 p.m. local time, Monday through Friday)*

3.2 Severity Events Defined

3.2.1 Severity 1 Events:

3.2.1.1 Database server down

3.2.1.2 User server down

3.2.1.3 UCS server down

3.2.1.4 Switches – all remote sites to site trunking

3.2.1.5 ZC1 – zone controller down

3.2.1.6 ZC/M – zone manager down

3.2.1.7 Interpose issues (OL System Only)

3.2.1.8 Port issues

3.2.1.9 CEB issues

3.2.1.10 Ambassador links and slots

3.2.1.11 Zone controller

3.2.1.12 MUX

3.2.1.13 Internet/router issues

3.2.1.14 Internet link issues

3.2.1.15 Sites Down – site unknown/not wide/failsoft; occurrence 5 minutes or greater; 3 occurrences in 30 minutes; or 5 occurrences in 60 minutes

3.2.1.16 Synch cards

3.2.1.17 Agents (SSC)

3.2.1.18 Trap forwarder (SSC)

3.2.1.19 33 percent or greater of site channels down

3.2.1.20 33 percent or greater down of any Severity 2 device

3.2.1.21 Intermittent problems

NOTE: Severity 1 events that are 33% or greater are dispatched on a 24/7 basis. All other events will be treated as Severity 2.

3.2.2 Severity 2 Events:

3.2.2.1 Zone manager

3.2.2.2 New fault

3.2.2.3 If remote restoration is not possible, then the event is upgraded to a Severity 1

3.2.2.4 Intermittent problems

3.2.2.5 Single site channels down

3.2.2.6 Wireline - single site channels down

3.2.2.7 Rx/Tx/Base Stations – single site channels down

NOTE: Severity 2 events are dispatched on Same Business Day (SBD), Monday – Friday, 7:30 a.m. – 4:30 p.m.

3.3 Qualifications for Performance

To properly support System O&M, users and service providers are required to have properly qualified personnel. This includes System Managers and System Technologist/Technicians. These requirements are minimum thresholds and non-negotiable. Those individuals filling these roles must be compliant 100 percent of the time.

3.3.1 System Manager

The System Manager (SM) is a full-time employee assigned to oversee management and O&M of user's systems and operations. The SM will have responsibility for fulfillment of the responsibilities of the user to the overall System, and the System operations as defined through the SLA. The SM will be engaged in business, administrative and technical tasks. To successfully perform this role, the SM will be supported by the System Technologists/Technicians, and the user and vendor maintenance team, as required.

3.3.1.1 Qualifications

3.3.1.1.1 The SM will be able to effectively communicate via oral briefings and written documentation about current and future technology solutions to complex communications requirements. The SM will be able to translate System communication needs to the appropriate representatives of the System equipment manufacturer including business staff, development engineers and technicians.

3.3.1.1.2 The SM must be available to be contacted/respond within twenty-four hours of service or information inquiries on project status and be able to discuss technical and business issues as they arise.

3.3.1.1.3 The SM will have a Bachelor Degree/equivalent experience in the telecommunications/LMR field to include specific application knowledge of Motorola ASTRO 25™ technology, Project 25, AES, OTAR, system fleet mapping, programming and configuration, and general wireless voice and data technologies. Additionally, overall application knowledge of LMR systems solutions to include trunking, Wide Area Voting, repeater, Simplex, and transportable radio communications systems is required. The SM will have computer skills in applicable databases, Microsoft Word, PowerPoint and radio programming software.

3.3.1.1.4 The SM must be trained by the System equipment manufacturers in the latest technologies that are deployed by the System.

3.3.2 System Technologist/Technician

3.3.2.1 The System Technologist/Technician (ST) will provide maintenance activities in support of the System. STs will provide and support service work activity in the field with the user, or vendor end-user, and equipment fulfilling hands-on activity relating to maintenance tasks required to properly maintain the System. Additionally, the ST may the SM in preparing reports, plans and communications.

3.3.2.2 To successfully perform their role, STs should be supported by the System equipment manufacturer's technical teams and the System maintenance support processes. Additionally, the ST will work directly with System fleet/net managers in regards to System and subscriber programming configurations and fleet maps.

3.3.2.3 The ST will be available and accessible within one hour (to provide four-hour response depending upon the issue severity level) to respond and address System technical issues.

3.3.2.4 Qualifications

3.3.2.1.1 STs must have a minimum of five years' experience in the telecommunications/LMR field. An Associate/technical degree is preferred. Recent specific experience with Motorola ASTRO 25™ technology, Project 25, AES, OTAR, system fleet mapping, programming and configuration is required. Additionally, overall application knowledge of LMR systems solutions to include trunking, wide area voting, repeater, simplex and transportable radio communications systems is required. The ST will have computer skills in applicable databases, Microsoft Word, PowerPoint and radio programming software.

3.3.2.1.2 STs must be trained by the manufacturers in the latest technologies that are deployed by the System. Additionally, the ST will have access to the latest tools and support provided by the manufacturer in performance of tasks and duties.

3.4 Equipment

To properly support maintenance activities, users and vendors that are providing STs must have the necessary test equipment to provide proper service. This equipment must be properly maintained, including equipment calibration on a regular basis. At a minimum, STs are to have the following test equipment. These requirements are minimum thresholds and non-negotiable.

3.4.1 Electrostatic Discharge Field Service Kit

3.4.2 Cable Continuity Test Set

3.4.3 50 Ohm Load

3.4.4 Transmission Impairment Measuring Set

3.4.5 11 Gig Frequency Counter

3.4.6 6.x or above Compliant Communications Analyzer

3.4.7 Digital Multi-meter

3.4.8 Ground Resistance Tester

3.4.9 Dedicated Laptop without Wireless LAN

3.4.10 Appropriate Manuals

3.4.11 T1 Test Set

3.4.12 In-Line Watt Meter

3.4.13 XTS5000 or Equivalent Portables

3.4.14 RF Coax Test Cables

3.4.15 LAN Cable

3.4.16 Appropriate Serial Interface Cables

3.5 Training

The following courses are necessary to achieve System training goals. These requirements are minimum thresholds.

3.5.1 System Manager (SM):

3.5.1.1 ASTRO 25™ System IV & D – Bridging the Knowledge Gap

3.5.1.2 ASTRO 25™ System – Networking

3.5.1.3 ASTRO 25™ System IV & D – System Overview

3.5.1.4 ASTRO 25™ System IV & D – System Radio Network Management (Weeks 1 and 2)

3.5.1.5 ASTRO 25™ System – Over the Air Re-keying (OTAR), Key Management Facility (KMF) and Key Variable Loader (KVL)

3.5.2 System Technician (ST):

3.5.2.1 ASTRO 25™ System IV & D – Bridging the Knowledge Gap

3.5.2.2 ASTRO 25™ Systems – Networking

3.5.2.3 ASTRO 25™ System IV & D – System Overview

3.5.2.4 ASTRO 25™ System IV & D – System Radio Network Management (Weeks 1 and 2)

3.5.2.5 ASTRO 25™ System – Over the Air Re-keying (OTAR), Key Management Facility (KMF) and Key Variable Loader (KVL)

3.5.2.6 CentraCom Gold Elite Consoles

3.5.2.7 ASTRO 25™ System IV & D Technical System Workshop

3.5.2.8 ASTRO 25™ System IV & D Site Repeater Workshop

3.5.2.9 ASTRO 25™ System Radios – Quick Start

3.5.3 Operator/Supervisor:

3.5.3.1 CentraCom Gold Elite - Console Operator

3.5.3.2 CentraCom Gold Elite – Admin and Alias Database Manager (ADM)

3.5.4 MotoBridge® Operator:

3.5.4.1 MotoBridge® Operator

3.5.5 Subscriber User:

3.5.5.1 ASTRO 25® XTS5000 – Portable and Operator

3.5.5.2 Mobile Data Terminals (as they come on line)

4.0 Cost/Cost Share

4.1 The cost of operating and maintaining the System may be handled in two ways. Those costs that benefit all users equally, and that would not be incurred if the System did not exist, will be shared by users. Conversely, those costs that would be borne by the owners regardless of whether or not the System existed, or those costs that apply to features requested and used by specific user, will be borne by only those owners/users.

Any and all costs borne by the users are due contingent upon availability of appropriated funds.

4.2 Using the same components and categories as in Section 3 to address service levels, the remainder of this section addresses only the proposed cost share approach of each major System component.

Table 4.1 System Equipment

System Equipment	Proposed Cost Share
Master Site – Zone Controllers Master Site zone controllers are the brains of the System and cannot be separated in any way. Further, they are an inherent part of a trunked radio system and should be shared. *The Municipality of Anchorage Wide-Area Network (AWARN) Zone Controller	**Shared** ***Paid by Owners**
Radio Frequency (RF) Site Equipment Any user may be using any radio site to transmit or receive. RF equipment cannot be separated and should be shared. This also applies to infrastructure and antenna systems.	**Shared**

Table 4.2 Subsystem Equipment

Subsystem Equipment	Proposed Cost Share
Console System Consoles provide specific control for a particular user. Furthermore, the user specifies the programming in that console to fit their needs. Because of this level of control, O&M costs for consoles should be paid for by the owners**.**	**Paid by Console Owners**
Key Management Facility (KMF) Each KMF terminal is distinct and is controlled by the owner. As a result, the costs of operating/maintaining each KMF terminal should be paid by the owner.	**Some Costs Shared**
Network Management Terminal (NMT) NMTs provide System Managers and System Technicians direct access to the zone controller. Since the zone controllers O&M costs are shared, NMT costs should also be shared. O&M costs for all their NMTs are paid by the owners of those terminals.	**Agencies Connected to Zone Controllers Shared** **All Others Paid by Owners**
Telephone Interconnect Telephone interconnect can be issued by any user with a compatible radio and knowledge of the access number.	**Paid by Owners**
Logging Recorder Logging recorders are dedicated to specific dispatch centers. Since console O&M costs are borne by the user, logging recorder costs should also.	**Paid by Owners**
Data Server Data servers are designed to provide supporting information. They are not currently deployed, but are planned for DOT and the Alaska State Troopers. Since these agencies need this data, the costs of operating/maintaining these servers should be paid by the owners of the servers.	**Paid by Owners**
Bi-Directional Amplifier (BDA) BDAs provide RF coverage in locations that have little/no coverage through normal propagation. Since BDAs, and specifically those that provide in-building coverage, expand coverage to meet specific user needs (i.e. Ted Stevens Airport), their O&M costs should be paid by the owner of the BDAs.	**Building Specific Paid by Owners**

Table 4.3 MotoBridge™ Gateway System

MotoBridge™ Gateway System	Proposed Cost Share
OMC/ACP/SIP The OMC/ACP/SIP may need to support critical operations and will need a high level of availability. As a result, their O&M costs will be shared by all users.	**Shared**
WSGU/Dispatch Console MotoBridge™ WSGU/dispatch console provides the capability to connect systems on a planned or ad hoc basis into a local dispatch center. As such, O&M should be treated that same as dispatch consoles (i.e. paid by the owner).	**Paid by Owners**
RGU/Radio Resource MotoBridge™ RGU/radio resources provide the capability to connect systems on a planned or ad hoc basis into a local dispatch center. As such, O&M costs should be treated that same as dispatch consoles (i.e. paid by the owner).	**Paid by Owners**

Table 4.4 Site Equipment

Site Equipment	Proposed Cost Share
Shelters Shelters would exist and need to be maintained regardless of whether the System exists or not. As a result, the cost of shelter maintenance will be paid by the shelter owners.	**Paid by Owners**
Towers Towers would exist and need to be maintained regardless of whether the System exists or not. As a result, the cost of tower maintenance will be paid by the tower owners.	**Paid by Owners**
Site/Back-Up Power Site/backup power would exist and need to be maintained regardless of whether the System exists or not. As a result, the cost of site/backup power maintenance will be paid by the site power owners.	**Paid by Owners**
Site Physical Area The site physical area would exist and need to be maintained regardless of whether the System exists or not. As a result, the cost of site area maintenance will be paid by the site owners.	**Paid by Owners**
Equipment and Site Grounding Equipment and site grounding would exist and need to be maintained regardless of whether the System exists or not. As a result, the cost of equipment and site grounding maintenance will be paid by the equipment owners.	**Paid by Owners**

Table 4.5 Transportable/Deployable Systems

Transportable/Deployable System	Proposed Cost Share
Communication Shelter The cost of keeping transportable/deployable systems in a ready state that can be deployed in 24 hours will be paid by the agency responsible for these units. Specific procedures to achieve this state of readiness will be developed and implemented by the user or vendor.	**Paid by Owners**
Dispatch Shelter The cost of keeping the transportable/deployable systems in a ready state that can be deployed in 24 hours will be paid by the agency responsible for these units. Specific procedures to achieve this state of readiness will be developed and implemented by the user or vendor.	**Paid by Owners**
Tower/Power Skid The cost of keeping the transportable/deployable systems in a ready state that can be deployed in 24 hours will be paid by the agency responsible for these units. Specific procedures to achieve this state of readiness will be developed and implemented by the user or vendor.	**Paid by Owners**
Logistics Skid The cost of keeping the transportable/deployable systems in a ready state that can be deployed in 24 hours will be paid by the agency responsible for these units. Specific procedures to achieve this state of readiness will be developed and implemented by the user or vendor.	**Paid by Owners**
C-Band Satellite Earth Station Antenna Skid The cost of keeping the transportable/deployable systems in a ready state that can be deployed in 24 hours will be paid by the agency responsible for these units. Specific procedures to achieve this state of readiness will be developed and implemented by the user or vendor.	**Paid by Owners**

NOTE: The cost of deploying any component of the transportable/deployable system will be paid by the requesting agency.

Table 4.6 Communications Transport Network

Communications Transport Network	Proposed Cost Share
SATS The cost of the portion of SATS used by the shared infrastructure will be shared by all System users. Those fair-market value costs of those portions of SATS used to benefit only a specific user (such as to connect a dispatch site) will be borne by that user.	**Infrastructure (Actual Usage) Shared** **Console Connectivity (Actual Usage) Paid by Owners**
Commercial Leased Circuits The cost of the portion of commercial leased circuits used by the shared infrastructure will be shared by all System users. Those fair-market value costs of those portions of leased circuits used to benefit only a specific user (such as to connect a dispatch site) will be borne by that user.	**Infrastructure (Actual Usage) Shared** **Console Connectivity (Actual Usage) Paid by Owners**
User Provided The cost of the portion of user-provided circuits used by the shared infrastructure will be shared by all System users. Those fair-market value costs of those portions of user-provided circuits used to benefit only a specific user (such as to connect a dispatch site) will be borne by that user.	**Infrastructure (Actual Usage) Shared** **Console Connectivity (Actual Usage) Paid by Owners**

Table 4.7 Operations and System Management

Operations and System Management	Proposed Cost Share
General Administration The Operations Management Office benefits the entire System and portions cannot be separated to a specific user or set of users.	**Shared**
Support - User Council Costs of supporting the User Council benefit the entire System and portions cannot be separated and associated with a specific user or set of users. These costs include meeting, travel and other reasonable expenses.	**Shared**
Support - Technology Planning The costs of continually assessing the System technology versus those in the marketplace, and ensuring that the System is kept technically current, cannot be separated or associated with a specific user or set of users.	**Shared**
Management Processes The management processes that fall under this SLA, and itemized at Appendix C cannot be separated and associated with a specific user or set of users.	**Shared**
System Management Services and Processes The cost of overall System performance monitoring and network management cannot be separated and associated with a specific user or set of users.	**Shared**

STATE OF ALASKA

Signed:

Sheldon Fisher
Commissioner, Department of Administration
State of Alaska

Date: 11/19/15
(On Behalf of All State Agencies)

Signed:

Terry Vrabec
Deputy Commissioner, Department of Public Safety
ALMR SOA Executive Council Representative

Date: 8/5/15

DOD ALASKA
ON BEHALF OF ALL DOD-ALASKA SERVICES

Signed:

Harold T. Hoang

Harold Hoang
Colonel, USAF
ALCOM/J6, Director for C4 Systems

Date: 27 July 2015

FEDERAL EXECUTIVE ASSOCIATION SIGNATURE PAGE

Signed:

Deirdre Fike
President
Alaska Federal Executive Association

Date: 09/01/2015

Appendix A
Minimum Site Bandwidth Requirements

Table A-1 RF Site Bandwidth Requirements.

	Radio Communication Site	Connectivity to SATS/Master Site	Bandwidth (DS0) *
1	Alcantra – Wasilla	SOA M/W	8
2	Anchor River – Anchor Point	SOA M/W	6
3	Atwood Bldg – Anchorage (VHF)	SOA M/W	16
4	Auke Lake – Juneau	SOA M/W and GCI leased	3
5	Bailey Hill – Palmer	SOA M/W	8
6	Beaver Creek – Alaska Highway	SOA M/W	4
7	Birch Hill – Fort Wainwright	SOA M/W	10
8	Black Rapids – Richardson Highway	AT&T Leased CKT	6
9	Blueberry Hill – Eagle River	MOA M/W & SOW M/W	6
10	Byers Creek – Parks Highway	SOA M/W	6
11	Canyon Creek – Richardson Highway	SOA M/W	10
12	Cathedral Rapids –- Alaska Highway	SOA M/W	5
13	Chulitna – Parks Highway	SOA M/W	6
14	Cooper Mountain – Seward Highway	SOA M/W	6
15	Cottonwood Creek – Wasilla	SOA M/W	6
16	Diamond Ridge – Homer	SOA M/W	6
17	Dimond Courthouse – Juneau	SOA MW	3
18	Divide – Richardson Highway	SOA M/W	6
19	Donnelly Dome – Fort Greely	DOD M/W	8
20	Dot Lake – Alaska Highway	SOA M/W	5
21	Ernestine Mountain – Richardson Highway	SOA M/W	6
22	Ester Dome – Fairbanks	SOA M/W	5
23	Fire Station 12 – Anchorage	MOA M/W and SOA M/W	13
24	Fort Greely – Fort Greely	SOA M/W	8
25	Garner – Parks Highway	SOA M/W	6
26	Girdwood – Girdwood	SOA M/W	6
27	Glennallen – Glennallen	SOA M/W	8
28	Haines – Haines	GCI, AT&T and SOA M/W	3

29	Harding Lake – Richardson Highway	SOA M/W	6
30	Heney Range – Cordova	SOA M/W	5
31	High Mountain – Ketchikan	GCI and SOA M/W	4
32	Hill 3265 – Eielson	DOD M/W	6
33	Honolulu – Parks Highway	SOA M/W	8
34	Hope – Hope	SOA M/W	6
35	Hurricane – Parks Highway	SOA M/W	8
36	Independent Ridge	SOA M/W	5
37	Kasilof – Kenai	SOA M/W	6
38	Kenai – Kenai	SOA M/W	6
39	Lena Point – Juneau	SOA M/W	3
40	Lions Head – Glenn Highway	SOA M/W	8
41	Money Knob – Dalton Highway	SOA M/W	6
42	Moose Pass – Seward Hwy	SOA M/W	6
43	Mt Sunny Hay – Craig	SOA MW & Leased CKT	4
44	Nenana – Parks Highway	SOA M/W	6
45	Nikiski – Nikiski	SOA M/W	6
46	Ninilchik	SOA M/W	6
47	Paxson – Richardson Highway	SOA M/W	6
48	Peger Road – Fairbanks	SOA M/W	7
49	Pillar Mountain – Kodiak	SOA M/W	3
50	Pipeline Hills - Sterling Highway	SOA M/W	6
51	Pole Hill – Eielson Air Force Base	DOD M/W	6
52	Portage – Portage	ARRC and ACS	6
53	Quarry Hill – Eielson Air Force Base	DOD M/W	11
54	R1North – Joint Base Elmendorf-Richardson	DOD M/W & SOA MW	9
55	Rabbit Creek – Anchorage	SOA M/W	6
56	Reindeer Hills – Parks Highway	SOA M/W	6
57	Saddle Mountain – Juneau	SOA M/W & Leased CKT	3
58	Sawmill – Glenn Highway	SOA M/W	8
59	Seldovia – Seldovia	SOA M/W	6
60	Seward – Seward Highway	SOA M/W	6
61	Silvertip – Seward Highway	SOA M/W	6
62	Site Summit – Fort Richardson	DOD M/W	13
63	Skagway – Skagway	SOA M/W & Leased CKT	3
64	Ski Hill – Soldotna	SOA M/W	6
65	Sourdough – Richardson Highway	SOA M/W	8
66	Sterling – Kenai	SOA M/W	6

67	Summit Lake – Seward Highway	SOA M/W	6
68	Tahneta Pass – Glenn Highway	SOA M/W	8
60	Ted Stevens AIA – Anchorage	SOA M/W	13
70	Tok – Alaska Highway	SOA M/W	4
71	Tolsona – Glenn Highway	SOA M/W	8
72	Trims – Richardson Highway	SOA M/W	6
73	Tsina – Richardson Highway	SOA M/W	6
74	Valdez – Valdez	SOA M/W	14
75	Whittier – Whittier	SOA M/W & Leased CKT	6
76	Willow Creek – Willow	SOA M/W	6
77	Willow Mountain – Richardson Highway	SOA M/W	6
78	Wolcott Mountain – Seward Highway	SOA M/W	6
79	Womens Bay – Kodiak	SOA M/W	3
80	Yanert – Parks Highway	SOA M/W	6
81	TAN	SOA M/W & Leased CKT	4
82	TAS	SOA M/W & Leased CKT	4
83	Tudor Spare	At Master Site	6

***** Bandwidth reflects the actual and projected usage within ALMR.

Table A-2 Other Site Connectivity Requirements

			Ancillary Equipment Bandwidth						
	Site	**Connectivity to SATS/Master Site**	**CEB DS0**	**Console DS0**	**NMT DS0**	**KMF DS0**	**Radio Patch DS0**	**Telephone Interconnect DS0**	**MotoBridge®** **NOTE:** 256Kb is the minimum connectivity requirement per unit listed
1	Anchorage - EOC	Y							2 units
2	Anchorage - Tudor Road ALMR Room	Y							1 units
3	Anchorage – Tudor Road Conference Room	Y							1 unit
4	Byers - SATS	Y							1 unit
5	Delta – DNR	Y							1 unit
6	Delta - SATS	Y							1 unit
7	Eielson – Amber Hall	Y		8	8	2			1 unit
8	Eielson Air Force Base - SFS Dispatch	Y		14					
9	Eielson – Quarry Hill	Y							1 unit
10	Fairbanks – AST	Y	96	8					2 unit
11	Fairbanks DNR - SATS	Y							1 unit
12	Fairbanks – ECC/PD	Y		17					2 units
13	Fort Greely	Y		11					3 units
14	Fort Greely – West Tower	Y							3 units
15	Fort Richardson – Range Control	Y							5 units
16	Fort Wainwright	Y		24					1 unit
17	Fort Wainwright –	Y							2 units

			Ancillary Equipment Bandwidth						
	Site	**Connectivity to SATS/Master Site**	**CEB DS0**	**Console DS0**	**NMT DS0**	**KMF DS0**	**Radio Patch DS0**	**Telephone Interconnect DS0**	**MotoBridge®** **NOTE:** 256Kb is the minimum connectivity requirement per unit listed
	Birch Hill Controller								
18	Fort Wainwright – Range Control	Y							4 units
19	Glennallen – SATS	Y							1 unit
20	Homer - PD	Y							2 units
21	JBER – Fire Station 1	Y							1 unit
22	JBER – MOC	Y		10					1 unit
23	JBER – R1 North	Y			8	2			3 units
24	JBER - RCC	Y		8					2 units
25	Juneau – PD/CG	Y		8					2 units
26	Juneau – Saddle Mountain	Y							
27	Kodiak – PD/CG	Y							2 units
28	Kodiak – Pillar Mountain	Y							1 unit
29	MATCOM - Anchorage	Y							1 unit
30	Palmer – DNR Forestry	Y							1 unit
31	Saddle Mountain – SATS	Y							1 unit
32	Seward – PD/CG	Y							2 units
33	Site Summit	Y							1 unit
34	Soldotna – AST	Y	96	12					2 units
35	Soldotna DNR KIDC	Y							2 units
36	Soldotna DNR – Tudor Rd Frame	Y							1 unit

			Ancillary Equipment Bandwidth						
	Site	**Connectivity to SATS/Master Site**	**CEB DS0**	**Console DS0**	**NMT DS0**	**KMF DS0**	**Radio Patch DS0**	**Telephone Interconnect DS0**	**MotoBridge®** **NOTE:** 256Kb is the minimum connectivity requirement per unit listed
	Room								
37	Sterling – SATS Site	Y							1 unit
38	St Paul Island Water Tower	N							2 units
39	Ted Stevens Anchorage International Airport - Anchorage	Y							
40	Tok – AST	Y		3					1 units
41	Tok – SATS Site	Y							1 unit
42	Transportable Area South	Y	24						1 unit
43	Transportable Area North	Y	24						1 unit
44	Tudor Tower	Y							1 unit
45	UAF-Fairbanks - PD	Y							2 units
46	Valdez – Valdez PD/CG	Y	24	5					2 units
47	Valdez – RF Site	Y							1 unit
48	Wasilla - MATCOM	Y	192	8					
49	Main OMC and Main SIP Servers - Anchorage	Y							1.5Gb total
50	Secondary OMC Secondary SIP Servers – Fairbanks	Y							1.5Gb total

Appendix B
Roles and Responsibilities

1.0 Executive Council. The Executive Council will empower the User Council to define, modify and select the support services as defined within this document.

2.0 User Council. The User Council will define, modify and select the support services as defined within this document.

2.1 General Responsibilities. The User Council has the following general responsibilities under this agreement:

2.1.1 Define the level of System maintenance and operations services required, and present this information to the Executive Council.

2.1.2 The User Council will conduct business in a courteous and professional manner with all support staff.

2.1.3 The User Council will provide all information required to open a support request.

3.0 Operations Manager. The Operations Manager is a cost-shared position and reports functionally to the User Council, yet has the authority to represent the User Council interests and make decisions on issues related to the day-to-day operation of the System, and any urgent or emergency System operational or repair decisions, as permitted by this and any and all other memoranda of understanding or agreement.

An urgent/emergency situation will be one where immediate decision authority is needed to allow the System as a whole, or any of the critical components, to continue supporting normal wide-area communications.

It is recognized that the Operations Manager may have to obtain authorizations from higher levels of the User Council or the Executive Council to make longer-term or non-emergency capital or repair expenditure decisions.

3.1 Direct Responsibilities. The Operations Manager has direct responsibility for:

3.1.1 All activities dealing with the operations support for portions of the shared System infrastructure, as approved by the ALMR Executive Council.

3.1.2 Coordinating with the User Council to manage the operation of System to comply with specified parameters, service levels and metrics defined in this SLA.

3.1.3 Coordinating with the User Council to recommend policies, procedures, contracts, organizations and agreements that provide the service levels as defined in this SLA.

3.1.4 Coordinating/cooperating with the User Council to sustain/improve the Customer Support Plan (CSP). Associated processes and procedures include: access to sites; call desk procedures; service call reporting; escalation processes and rules; metrics for measuring user satisfaction and other critical components associated with providing user support; and sustaining and restoring operations to meet the user needs, subject to approval of the Executive Council

3.1.5 Coordinating with the User Council to devise metrics and gather data that demonstrate compliance with this SLA, subject to approval by the Executive Council

3.1.6 Reporting results and providing feedback on operational support issues, metrics, and other critical operational issues to the User and Executive Councils on a regular basis, but monthly at a minimum.

3.2 General Responsibilities. The Operations Manager has general responsibility for:

3.2.1 Overall operations management of the System for day-to-day and emergency operations.

3.2.2 Acting as the single point of contact between the User Council and the O&M agencies and organizations.

3.2.3 Annual operations budget development for sustainment and operation of the system, operations management, and User Council administration.

3.2.4 Development of emergency operation response plans.

3.2.5 Quality control plans development and implementation.

3.2.6 Security control plans implementation and auditing actions.

3.2.7 Monthly operational and maintenance reports to the User Council to include, at a minimum, system availability calculations, issues and concerns that require Executive Council input, response or general awareness and operational budget status.

4.0 System Manager

To ensure the delivery of all of System service requirements, the System Manager (SM) will manage overall agreement and service compliance. The SM is a cost-shared position.

4.1 Direct Responsibilities. The SM has direct responsibility for:

4.1.1 Interfacing with the user-designated representative(s) on System management issues.

4.1.2 Directing daily and emergency System technology management, and administration functions to meet the operational needs of the User Council as stated in this SLA and any other applicable contract statements of work and memoranda of agreement and understanding.

4.1.3 Technical management, operation and oversight of the shared System infrastructure hardware and software.

4.1.4 Ensuring that the System technology performance meets the user's operational needs day to day, and during emergencies.

4.2 Qualifications. The qualifications of the SM include the following:

4.2.1 Bachelor Degree/equivalent experience in the telecommunications/LMR field including specific application knowledge of Motorola ASTRO 25™ technology, Project 25, AES encryption, OTAR, system fleet mapping, programming and configuration, and general wireless voice and data technologies.

4.2.2 Application knowledge of LMR system solutions to include trunking, wide area voting, repeaters, Simplex, and transportable radio communications systems is required.

4.2.3 Computer skills in applicable databases, Microsoft Word, Microsoft PowerPoint and system radio equipment programming software.

4.2.4 Authorized and trained by the System equipment manufacturer (Motorola) in the latest technologies that are deployed by the System during the period of performance.

4.2.5 Aaccess to the latest tools and support provided by the manufacturer to properly performance all tasks and duties.

4.2.6 Access to the System, system databases and configurations by the System.

4.2.7 Ability to communicate effectively via oral briefings and written documentation about current and future technology solutions to complex communications requirements.

4.2.8 Ability to translate System communication needs to the appropriate representatives of the System equipment manufacturer including business staff, development engineers and technicians

4.2.9 Able to respond within twenty-four hours for service or information inquiries on System status or be able to discuss technical and business issues as they arise.

4.3 General Responsibilities. The SM has general responsibility for:

4.3.1 Primary Contact - The SM will serve as the single focal point for all agreement, service compliance and quality control issues related to administration of the System technology. The SM will interface with key personnel supporting the System to bring satisfactory resolution to any outstanding issues.

4.3.2 Consolidated Reporting - The SM will be responsible for consolidating and presenting to users all required reporting data on an agreed upon basis. This information includes repair service history, performance metrics, benchmarking data and inventory management.

4.3.3 Long-term Planning - Working closely with the User Council, the SM will assist in developing a long-term wireless technology plan. The SM will provide on a scheduled basis (at least annually) a technology review and management presentation. This presentation will review current state of communications, considerations for planned upgrades or changes, and current or future technologies available for consideration.

4.3.4 Transition Management - If new sites migrate to this SLA, it will be the responsibility of the SM to work with the Operations Manager staff and the User Council to ensure that consistent procedures are implemented for successful service transition. This responsibility includes developing customer support procedures, and ensuring that an effective communications plan has been presented to all resources impacted by the transition.

4.3.5 Manage Inventory Database - The System Manager will manage an inventory database and will make changes to the database as additions and deletions are made. Annual audits and reports will be conducted with the agencies that own the equipment and software managed in the inventory.

4.3.6. Manage Service Delivery - The System Manager is responsible for managing the quality of service delivery. This includes ensuring that all utilized service entities are properly trained, documented and capable of responding to System service requirements.

4.3.7 Track Service History - In addition to managing System inventory by site, the SM is also responsible for tracking service history. This information will be managed on an ongoing basis and submitted to System management where it will be used to recommend upgrades.

4.3.8 New Equipment Acquisition - System Manager will assist users in the ordering of radio equipment.

4.3.9 Monitoring the System and its components normal operations.

4.3.10 Participating in the diagnosis of System performance problems and the development of corrective action recommendations.

4.3.11 Dispatching appropriate repair services in the event of an equipment malfunction.

4.3.12 Notifying the Operations Manager, Network Manager or user point of contact (POC) of any System malfunctions that may affect the System/System regional area.

4.3.13 Managing the System database elements including subscriber IDs, talk group IDs, and the various parameters that relate to their effective operation.

4.3.14 Providing the Network Manager any updates to the Master ID Assignment Table so all user radio IDs can be tracked to an owner organization.

4.3.15 Monitoring performance of the entire network for normal operations, particularly the performance of the common equipment.

4.3.16 Assigned as the identified point of contact with vendor/contractor for issues related to the common equipment. This includes being the individual responsible for forwarding information from/to vendor/contractor, from/to the Operations Manager and the user POC.

4.3.17 Providing timely information to the Operations Manager and user POC on any System issue that arises, or repair/maintenance issues related to the common equipment.

4.3.18 Providing monthly reports to the Operations Manager on the operation of the System, System availability calculations, financial status and any issues that need Operations Manager or higher review, input or decision.

4.3.19 Working with the Operations Manager and user liaisons to develop the System budget for the operation and maintenance to support the System common equipment.

4.3.20 Conducting the monthly controller switch and the periodic database backups.

4.3.21 Maintaining and disseminating an updated Master ID Assignment Table from data provided by the System user.

4.3.22 The SM will be backed up by a designated alternate so that in his/her absence there will still be an identified person accountable for the Technical System Manager responsibilities.

4.3.23 The SM shall meet at least quarterly with the User Council to review operations of the System and share ideas or issues that have arisen that may be of interest to the users.

4.3.24 The SM must be familiar with using the Advance Systems Key hardware.

4.3.25 The SM will have the authorization to verbally approve emergency service repairs under existing contracts, under those conditions where the system is in jeopardy of failing or has failed.

5.0 System Technologist (ST)

To properly support and provide maintenance of the System, the ST is required to have the proper skills and equipment knowledge, and must be OEM certified and authorized to perform maintenance and preventative maintenance actions on System equipment. The ST should be skilled in System support activity and operations, System equipment listed in this SLA, and in general, LMR and wireless technology. The ST is a cost-shared position.

5.1 Qualifications. The qualifications of the ST include the following:

5.1.1 OEM certified.

5.1.2 A minimum of five years' experience in telecommunications/LMR maintenance.

5.1.3 An Associates or technical degree is preferred.

5.1.4 Recent, specific experience is required with Motorola ASTRO 25™ technology, Project 25, AES, OTAR, MotoBridge®, console operator positions, Project 25 subscriber radios, system fleet mapping, and programming and configuration for the current installed ASTRO 25™ software technology release.

5.1.5 Overall application knowledge of LMR systems solutions to include trunking, Wide Area Voting, repeaters, Simplex and transportable radio communications systems is required.

5.1.6 Computer skills in applicable databases and products.

5.1.7 Authorized, trained and certified by the OEM in the latest technologies that are deployed by the System during the period of performance

5.1.8 Have access to the latest tools and support provided by the OEM in performance of tasks/duties.

5.1.9 Proof of the above qualifications must be provided, and is required, to ensure that the System Technologist performing in support of this SLA remains proficient at the technology level at which the System is operating.

5.1.10 The ST shall be trained, authorized and certified to maintain and perform preventative maintenance services commensurate with whatever System technology release level the System is employing throughout the life of this SLA. The ST has general responsibility to:

5.1.10.1 Provide technical support and operational availability 24 hours/day, 365 days/year, as appropriate for Severity Level.

5.1.10.2 Respond to requests for technical support in accordance with required response times and performance levels.

5.1.10.3 Maintain and have access to selected test equipment for System simulations of current released manufacturing supported versions, as needed.

5.1.10.4 Advise users with procedure that will be used for System restoration or issue resolution.

5.1.10.5 Coordinate issue resolution with the service technician in the field until close of the case number.

5.1.10.6 Escalate support issues to vendor/contractor engineering and product groups, if necessary.

5.1.10.7 Provide a single focal point for any systemic issue, and manage the issue to resolution.

5.1.10.8 Escalate the case number to appropriate Party/Parties upon expiration of the applicable response time.

5.1.10.9 Implement changes to the database and escalation procedures.

5.2 ST Equipment Requirements. The ST will utilize the appropriate equipment outlined in Paragraph 3.4, Equipment, in the main document in the performance of their duties.

6.0 Network Manager (NM). The NM reports to the SM. The NM is a cost-shared position.

6.1 Direct Responsibilities. The NM has direct responsibility for:

6.1.1 Technical management

6.1.2 Operation and oversight of the local area network (LAN) and wide area network (WAN)

6.1.3 Final technical responsible person to ensure that the telecommunication LAN and WAN networks meet System requirements

6.2 General Responsibilities. The NM has general responsibility for:

6.2.1 Monitoring the network and its components' normal operations.

6.2.2 Participating in the diagnosis of network performance problems and the development of corrective action recommendations.

6.2.3 Dispatching appropriate repair services in the event of network malfunction or outages.

6.2.4 Notifying the SM of any network malfunctions that may affect the system or system regional area.

6.2.5 Monitoring the performance of the entire network for normal operations, particularly the performance of the common equipment.

6.2.6 Providing timely information to the SM on any network issue that arises or repair/maintenance issue related to the common equipment.

6.2.7 Providing monthly reports to the SM on the operation of the network, network availability calculations, financial status and any issues that need SM or higher review, input or decision.

6.2.8 Working with the Operations Manager, SM and user liaisons to develop the System budget for the O&M to support the System common network equipment.

6.2.9 The NM will be backed up by a designated alternate so that in his/her absence, there will still be an identified person accountable for the NM responsibilities.

6.2.11 The NM will have authorization to approve routine O&M invoices within the approved financial guidelines as provided by the Executive Council through the User Council.

6.2.11 The NM will have the authorization to verbally approve emergency service repairs, with existing contracts, under those conditions where the network is in jeopardy of failing or has failed.

7.0 Maintenance Technical Support

Contract and/or agency technicians who perform maintenance related activities for the shared System infrastructure. These are cost-shared positions.

7.1 General Responsibilities. Technical Support personnel:

7.1.1 Will conduct business in a courteous and professional manner with the User Council.

7.1.2 Will use the Help Desk to provide Level 1 support, including creating problem tickets and work orders and assigning responsibility to appropriate Level 2 resources.

7.1.3 Will use its own appropriate internal group to provide Level 2 server, network and infrastructure support services.

7.1.4 Will obtain appropriate approval before ticket closure.

7.1.5 Will attempt to resolve problems over the phone on first call.

7.1.6 Must log all problem calls through the Help Desk.

7.1.7 Will provide all necessary and requested documentation and information to the User Council prior to addition of a new device or functionality.

Appendix C
Operations and Maintenance Processes and Procedures

ALMR processes and procedures impart specific tasks/activities with associated responsibilities identified for site owners, users, System infrastructure operations, the Executive and User Councils. Operating procedures which cover Help Desk services, technical support, network monitoring services, infrastructure repair, advanced replacement services, system survey and analysis, software subscription releases, software upgrade design services, infrastructure software installation services, subscriber radio repair and reports shall be developed and maintained.

The certification/training requirements of the staff performing the tasks/activities within these procedures/processes must be identified within the procedure, as applicable. These processes/procedures must be followed and sustained. Any changes, considered or required, must be approved by the ALMR User Council.

1.0 Asset Management Process

The Asset Management process will be utilized to effectively track and manage System assets that are utilized for operations and support, including active and spare System equipment. This process includes subscriber management.

Inventory management involves the management of communication assets. Management of inventory records for fiduciary, financial or audit purposes is the responsibility of each user for their respective asset inventory. Annual inventories must be completed by all agencies operating on ALMR to insure the security of the System from unauthorized access.

Users and the SMO will track and manage all changes to their System equipment. Updates will be made within 48 hours of a change in status or location of the asset. This includes expiration events or changes in effective status (i.e. no longer functioning, unable to repair, lost/stolen/damaged, etc.).

Infrastructure owners currently own/utilize a complement of field spare boards and modules maintained in various locations in support of their equipment sites. The vendor/contractor shall supplement the System field spares through an advanced replacement process to minimize equipment outages at System sites.

The SMO will utilize a database or specialized software to provide a tracking mechanism for user System assets. System equipment is tracked by utilizing information specific to each item. Information about the process and requirements is outlined in the Asset Management Policy and Procedure 400-8.

NOTE[1]: Users with access to a Network Manager Terminal are authorized to make changes on radios within their fleet. The Add/Change/Delete form must still be filled out and sent into the SMO.

NOTE[2]: A quantity of spares is currently owned by and reserved for the Department of Defense or State of Alaska.

2.0 Help Desk and Call Management Process

The System infrastructure support process includes Help Desk Technical Support, call taking/tracking and dispatch operations. Support to the System is available 7 days/week, 24 hours/day (including holidays) to provide a central point of contact for all System service requests. Users can contact the Help Desk to request service, request information, or inquire on an open case via telephone at 1-888-334-2567 outside the Anchorage area or 334-2567 within the Anchorage bowl.

The Help Desk will dispatch appropriate factory trained and authorized service personnel and provide call management by tracking the progress of all System infrastructure service issues to completion.

The SMO Help Desk problem ticket/work order system will be used to record and track all problem reports, inquiries or other types of calls received for support. This provides the SMO with the ability to provide metrics with regard to this SLA. Call management is further defined in the Help Desk Policy and Procedure 400-13.

NOTE: Subscriber units such as mobiles and portables, consoles and logging recorders are not considered Infrastructure and are normally maintained by the user's selected radio service provider. This does not mean that the Help Desk cannot be used in an emergency.

3.0 Configuration Management Process

The SMO configuration management processes will be used by all support team levels, where approval and technical access has been granted, to record and track all changes or actions required for the network, infrastructure, consoles, radio sites, connectivity bandwidth, construction, permitting, liabilities, etc. This provides the SMO with the ability to provide status with regard to System configurations for this SLA.

NOTE: Configuration management must comply with the national consensus standard as defined within the commercial standard ANSI/EIA-649.

4.0 Customer Support Plan

The System is a shared system between DOD, SOA, and other Federal and local government agencies. The OMO and SMO will develop and keep up to date a Customer Support Plan (CSP) which describes the services, processes and procedures to be delivered by each office in support of the System and its user agencies, as well as specific responsibilities of the associated staff personnel.

5.0 Disaster Recovery Planning

Natural Disasters include, but are not limited to, earthquakes, tsunamis, volcano eruptions, etc. During a disaster use of the System is expected to be high. The following are areas of expected increase for operations:

5.1 Scheduling of personnel. During this time, the System Management Team will go on a higher level of total System monitoring, closely assessing the effected area for loading and service issues.

5.2 The Motorola™ Network Monitoring Office/System Service Center (NMO/SSC), at Schaumburg, Illinois, will be notified of the disaster and staffed with appropriate personnel to assist in monitoring and resolving issues throughout the emergency.

5.3 Other Support Personnel. Contract support personnel will be activated to assist with issues, as necessary. Additionally, management and technical personnel from DOD/SOA DOA/Enterprise Technology Service (ETS)/SATS will be included in System management and restoration during the disaster, which is outlined in the Catastrophic Natural Events (CNE) Plan.

6.0 Metric Reporting Procedures/Processes

The Operations Manager (OM) will report on System operations and issues. Issues requiring action shall be addressed by the OM, as prioritized and directed by the User Council. Other duties and responsibilities of the Operations Manager are outlined in the OMO CSP.

7.0 Preventive Maintenance Inspection

On an annual basis, an OEM certified technician shall perform operational tests and alignments on the System infrastructure network equipment to optimize and ensure the equipment meets OEM specifications.

7.1.1 The technician shall remove any oil, dust and/or foreign substances from the equipment, clean filters if applicable, and measure, record, align and adjust the following applicable equipment parameters to the frequency and modulation outlined in the rule and regulations of the FCC.

7.1.2 A preventative maintenance schedule will be coordinated with the site owner, DOD/SOA DOA, and approved on a yearly basis. Modifications to the schedule must also be coordinated and approved within 90 days of the scheduled preventative maintenance audit and inspection being performed.

7.1.3 The government (DOD/SOA DOA), at its pleasure, can provide a representative to audit/observe the preventative maintenance audit and inspection. Where special conveyance is required to get to the site to perform this activity, vendor/contractor shall

provide the conveyance of DOD/SOA DOA on the same conveyance used by the vendor/contractor.

7.1.4 Preventive maintenance activities will be documented and available for review, as required.

8.0 System Security

The security strategy for the System is predicated on protecting the radio network infrastructure. The ASTRO 25 has built-in security countermeasures. However, security also involves physical site and connected networks security.

8.1 The fundamental security strategy for protecting a large network, such as the System, consists of the following:

8.1.1 Define radio network security policies regarding what needs to be protected (see System Vulnerability Management Policy and Procedure 400-6)

8.1.2 Define and establish policies for external network connectivity, user access controls and anti-virus, including mobile data users. (see Information Assurance Control Review Policy and Procedure 200-6 and Virus Protection Policy 200-3)

8.2 Fully utilize built-in security countermeasures (see Information Assurance Awareness Policy and Procedure 200-5)

8.2.1 Anti-virus, intrusion detection, firewalls, access controls and operating system hardening (see Virus Protection Policy 200-3)

8.3 Perform radio network security management (see Information Assurance Control Review Policy and Procedure 200-6)

8.3.1 Monitor network barriers and anti-virus 24 hours/day, 7 days/week and be prepared with an incident response plan (see System Recovery Policy and Procedure 400-1 and System Incident Response Policy and Procedure 400-2)

8.3.2 Pro-actively maintain up-to-date security devices and update configurations as new threats emerge (see System Vulnerability Management Policy and Procedure 400-6)

8.3.3 Pre-test and deploy security updates (periodic and urgent) (see Virus Protection Policy 200-3 and Information Assurance Awareness Policy and Procedure 200-5)

8.3..4 Enforce and maintain User access controls (see System Account Control Policy and Procedure 400-3 and Privileged User Acceptable Use Policy and Procedure 400-7)

8.3.5 Conduct and test system backup and recovery procedures (see System Backup and Recovery Policy and Procedure 400-5)

8.3.6 Conduct ongoing security assessments and User training (see Privileged User Acceptable Use Policy and Procedure 400-7)

9.0 Site Book Management

Site Book management includes the management of site documentation and the process of updating it. The System Management and Operations Management Offices will track and manage modifications to data records, as they are communicated from the owning entity. Specific processes are outlined in the Site Book Policy and Procedure 400-9.

Addendum A
State of Alaska – Response Times

The SOA has modified contractually-required response times regarding issues involving their ALMR RF equipment at all of their sites.

The following Service Level Agreement (SLA) provisions are suspended for all SOA sites:

- Table-3.1 System Equipment
- Table-3.2 Sub System Equipment
- Table-3.3 MotoBridge® Gateway System
- Table-3.8 Service Level Definitions

SOA sites will continue to be monitored 24/7/365. Initial response may be by SOA technicians and will be determined by the severity of the issue; response by System Management Office (SMO) contractors may be delayed up to 72 hours. Response to SOA MotoBridge® issues will be by SOA technicians.