TECOLOTE RESEARCH, INC.

Alaska Land Mobile Radio System Economic Analysis

Final Report

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1 INTRODUCTION

1.1 Purpose

This report presents the Economic Analysis (EA) of the Alaska Land Mobile Radio (ALMR) system in accordance with the requirements of the Performance Work Statement (PWS)[1].

The ALMR communications system is a joint cooperative effort between federal, state and local government agencies to build and operate a single land mobile radio infrastructure for day-to-day and emergency response communications. This system is given executive oversight by an appointed executive council of the federal, state and, local government representatives. As of July 1, 2008 the ALMR system moved from a project status to an operational status. A direct result of this transition is the requirement that a basis and means for sharing on-going infrastructure operations and maintenance costs be established.

This EA examines the ALMR Cooperative Partnership (originally formed in 1997) and alternatives to validate its continued existence as the appropriate solution for the stakeholders and ALMR Cooperative Partnership as a whole. This analysis compares two alternatives: (1) the cost and non-cost factors (tangible and intangible benefits) of continuing the ALMR partnership on a cost sharing basis with (2) the cost and non-cost factors (tangible and intangible benefits) of separating the assets and reverting to separate systems. The analysis includes factual tangible and intangible aspects, both positive and negative, of each alternative from each major stakeholder's perspective. It also includes an assessment of the solicitation and responses to the stakeholders' top 3-5 leadership concerns/issues associated with maintaining the existing joint ALMR system versus creation of separate systems for each stakeholder.

The ALMR *approach* to funding the system is that each stakeholder funds the preventative and repair maintenance of its owned equipment and shares the funding of common support. The *method* for allocating cost sharing seeks to equitably allocate common support costs based on an agreed cost-driver while leaving the cost of stakeholder-owned equipment maintenance to the stakeholder (equipment purchased to satisfy a stakeholder's requirements whether operating in a partnership or separately). In August 2008, the ALMR Executive Council (EC) approved furtherance of a cost share concept that allocates a stakeholder's cost share based on number of subscribers. During the course of this analysis and in the process of reaching full stakeholder approval of the cost sharing agreement, evidence arose through various stakeholder inputs to consider a different method based on usage (airtime and site usage collectively). Since the shared-cost allocation is a level of detail below the primary alternatives analysis and is not essential to the economic analysis, there are only a few instances in this analysis where the method of cost sharing is evaluated and reported. It should be kept in mind that there is not yet an accepted cost sharing agreement.

This EA examines the ALMR Cooperative Partnership (originally formed in 1997) and alternatives to validate its continued existence as the appropriate solution for Alaska's first-responder interoperability needs along the road system. This analysis compares cost and non-

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[1] Attachment B, Reference B.1.10, Performance Work Statement, Economic Analysis, Alaska Land Mobile Radio (ALMR), August 2008.

cost factors (intangible benefits) of two alternatives: (1) continuing the ALMR Cooperative Partnership on a cost sharing basis with (2) separating the assets and reverting to separate systems. The analysis includes tangible and intangible aspects, both positive and negative, of each alternative from each major stakeholder's perspective. It also includes an assessment of the solicitation and responses to the stakeholders' top 3-5 leadership concerns/issues associated with maintaining the existing joint ALMR system versus creation of separate systems for each stakeholder. These concerns/issues are supported by an in-depth survey.

An Independent Validation for Cost Reasonableness (IVCR), a companion analysis prepared exclusively for DOD, benchmarks DOD ALMR costs with other like shared systems that implement DOD Information Assurance (IA) standards. The IVCR assesses whether the annual DOD ALMR shared user costs for operation and sustainment are fair and reasonable compared to other DOD benchmarked systems. The EA and IVCR required travel to (1) Alaska for the purpose of conducting stakeholder interviews and presenting briefings to review the economic analysis results with the government and (2) Honolulu, Hawaii and Ft Lewis, WA to gather data for the IVCR. The Government coordinated with the analysis team and stakeholders on the timing for these visits. No additional travel was required to any other locations for the purpose of conducting new or postponed interviews, presenting data, or gathering data not provided by the government.

1.2 Background

The ALMR communications system is currently comprised of 87 radio sites (85 fixed and 3 mobile) along the major road system and in southeast Alaska.[2] ALMR, utilizing the State of Alaska Telecommunications System (SATS) and some private sector-provided communications links as a communications backbone, provides wide area, day-to-day radio communications resources to over 70 agencies located in the state of Alaska representing the Department of Defense (DOD), Federal Executive Association (Non-DOD Federal), State of Alaska (SOA), municipal and volunteer fire, police, and emergency medical services (EMS) organizations (listed by name in Attachment F). ALMR addresses two primary needs for the participating stakeholders. Most of the agencies represented use ALMR routinely to carry out their respective agency day-to-day responsibilities during normal circumstances. ALMR provides the capability to allow these agencies to seamlessly provide a coordinated, robust interoperable response to emergency incidents requiring multi-agency, multi-jurisdictional services. ALMR fulfills the need for robust interoperable, seamless communications during emergencies without the need to introduce equipment unfamiliar to the responders, allowing them to focus on the emergency at hand, rather than how to operate a radio they normally do not use.[3]

The ALMR system is a joint cooperative effort between federal, state and local government agencies to build and operate a single land mobile radio infrastructure for day-to-day and emergency response communications. This system is given executive oversight by an appointed executive committee of the Department of Defense (DOD), federal, state and local representatives. This body is formally called the ALMR Executive Council (EC). The ALMR EC has established a Joint Project Team and a User Council. The Joint Program Team is responsible for conducting management actions required to implement the ALMR system. The

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[2] ALMR, when fully completed, is planned to have 115 radio sites.

[3] Attachment B, Reference B.1.12, Cost Share White Paper for the Alaska Land Mobile radio Communications System, The ALMR User Council, January 2, 2008, Introduction.

User Council is responsible for defining operational requirements and provides operational oversight through an Operations Management Office. Maintenance and system management is provided through the System Management Office and contract services.

As of 1 July 2008 the ALMR system moved from a project status to an operational status where the UC and the Operations Management Office provide operational control and management of the shared ALMR System under the oversight of the ALMR EC. The Operations Management Office (OMO) responds to the User Council and ALMR EC as required with the scope to services described herein. The OMO represents ALMR stakeholders to the contract maintenance organizations and ensures the shared system meets the collective needs of the stakeholders.

1.3 Scope

This analysis considered inputs from 16 ALMR stakeholders and two DOD-only Land Mobile Radio operations in Hawaii and Washington plus documentation already available and provided by ALMR (most of which is published on the ALMR web site at http://www.ak-prepared.com/almr/[4]).

The ALMR DOD Project Manager in collaboration with the ALMR SOA Project Manager also made available all cost information for the analysis.[5] This included the ALMR Cost Sharing Agreement, the System Design and Implementation Document (SDID), July 2008, and two ALMR Total Cost of Ownership Report (TCO) studies.

The ALMR Executive Council (EC) met 21 August 2008. During this meeting the EC approved for detailed review by stakeholders a cost sharing approach whereby owners of ALMR infrastructure assets would pay for the maintenance of the equipment they owned and share the costs for System Management, Operations Management and State of Alaska Telecommunications System (SATS) circuits used by ALMR stakeholders. These shared costs were to be allocated among the enterprise membership. These shared costs are relevant because they comprise a primary component of the Economic Analysis in subsequent comparisons of costs to maintain the existing ALMR system with those of separating ALMR into independent systems.

The SDID addressed the issue regarding whether or not ALMR is the best solution for all parties involved. This document examined the technical and financial impacts of implementing several separation scenarios and selected the most feasible alternatives for a theoretical separation. This study examined feasible alternatives for a breakup scenario involving the major stakeholders (DOD and SOA participants as well as impacts to other federal and local government agencies that currently operate on the system. The study also provided recommendations on the alternatives it examined. This EA used data, costs and recommendations from the SDID as a basis for comparison to maintaining the existing ALMR system.[6]

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[4] Attachment B, Reference B.1.1, Alaska Land Mobile Radio Internet Home Page.

[5] Attachment B, Reference B.1.10, Performance Work Statement, Economic Analysis, Alaska Land Mobile Radio (ALMR), August 2008, page 2.

[6] Attachment B, Reference B.1.4, System Design & Implementation Document (SDID) for Alaska Land Mobile Radio (including Appendix A, Feasibility Analysis for DOD/SOA Separation) (FOUO), AKA Separation Study, Motorola, Inc., July 1, 2008

The historical cost and project future funding from the TCO report[7] is the primary source of data to analyze the cost of maintaining the ALMR enterprise in comparison to separating it into discrete systems. The primary objective of the TCO document is to identify and quantify future ALMR operations and maintenance (O&M) costs. These future costs are then further classified into (1) those that are candidates to be shared by all System users and (2) those that will be paid solely by the agency that incurs them. All future ALMR O&M costs are driven by the level of service defined in the ALMR Service Level Agreement (SLA) and have been quantified through competitive contracts with third party service providers.

The above referenced documents primarily focused on costs associated with maintaining or separating ALMR assets and were used to analyze cost related factors for decision making. Since cost is only one component of a "best value" analysis, we also collected and analyzed non-cost factors, issues and concerns from stakeholders' perspectives. One of our primary tools for this involved interviews and solicitation of survey responses. The ALMR Joint Project Team was responsible for arranging appointments and meetings with key stakeholders and managers of other LMR systems. The great majority of appointments were conducted as face-to-face visits.

In order to analyze these non-cost factors to determine benefits and detractors of the two alternative constructs, many survey questions were related to the framework of the Department of Homeland Security SAFECOM Interoperability Continuum. Homeland Security designed the Continuum "to assist emergency response agencies and policy makers to plan and implement interoperability solutions for data and voice communications. The Continuum identifies five critical success elements that must be addressed to achieve a sophisticated interoperability solution: governance, standard operating procedures (SOPs), technology, training and exercises, and usage of interoperable communications."

Figure 1 shows the SAFECOM Interoperability Continuum[8] developed by the Department of Homeland Security.

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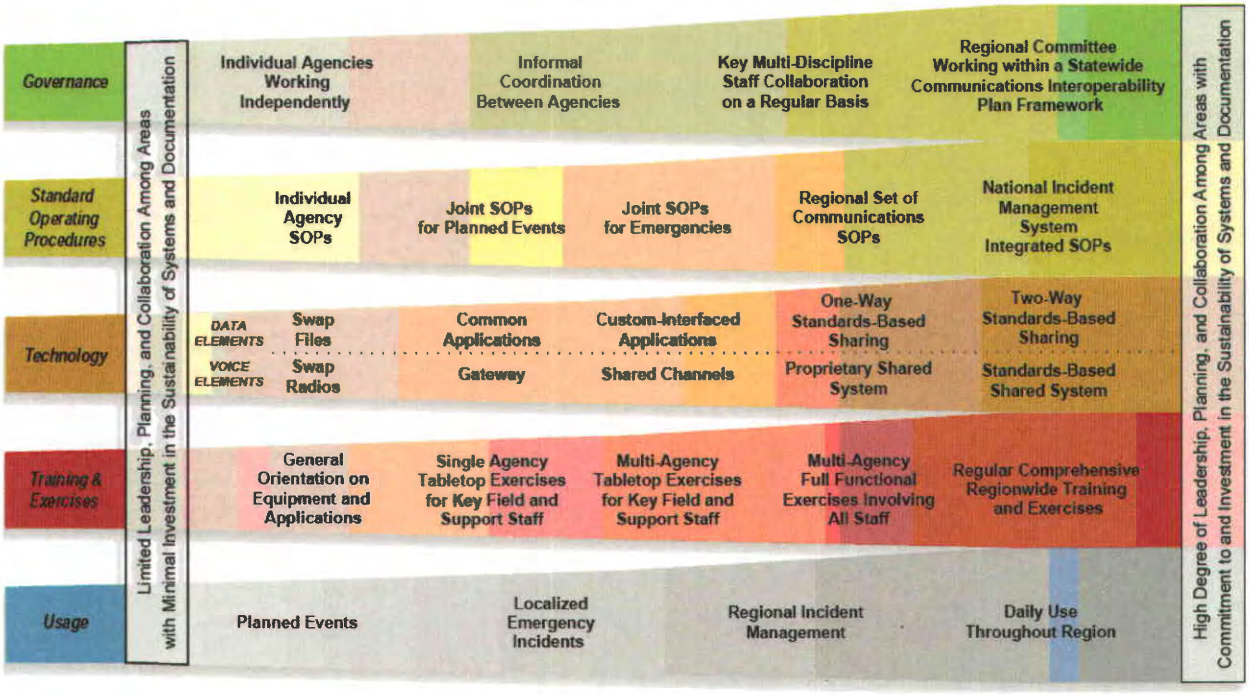
[7] Attachment B, Reference B.1.2, Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, Final, September 18, 2008

[8] Attachment B, Reference B.2.2, Interoperability Continuum Brochure, Department of Homeland Security, undated

Figure 1. SAFECOM Interoperability Continuum



The Stakeholder Survey included questions on each of the sub-elements of the Continuum. ALMR stakeholders were familiar with these components. Their responses provide their perspectives with regard to maintaining ALMR and separating it.

The Independent Validation of Cost Reasonableness (IVCR) was developed to compare the recurring sustainment costs to operate and maintain ALMR with like costs of comparable systems. These costs included operations and systems management, maintenance of common infrastructure and circuit usage. This separate study lends itself to this EA because these sustainment costs comprise the primary life cycle costs associated with maintaining the ALMR system. This could be an influencing factor on a stakeholder's decision to maintain membership or build a separate system. The IVCR concluded the robustness of ALMR, the services provided, and the cost performance ratios compared to other benchmarked systems validate that ALMR costs are reasonable.

1.4 Approach

The first part of the EA approach was to consider costs of each alternative. We used two sources of information to develop the comparison. For Alternative 1, maintaining the ALMR as it exists today was derived from the Historical Cost and Project Future Funding TCO report[9]. This report provides a breakout of types of costs for major stakeholder category between FY09 through FY25. This period of time comprises the projected life expectancy of ALMR. Costs for Alternative 2, creating separate systems were derived from the System Design and

[9] Attachment B, Reference B.1.2, Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, Final, September 18, 2008.

Implementation Document (SDID)[10], July 2008. As part of its feasibility analysis this document provided cost estimates to construct and maintain separate systems. The next step was to compare costs of each to provide an objective basis for decision making from a strictly cost perspective.

In making these comparisons, the EA evaluates not only (a) two alternatives for Alaska LMRs (ALMR Cooperative Partnership and Separate Systems), but also (b) compares ALMR to two other LMR systems–Ft. Lewis, Washington, LMR and Hawaii's Pacific LMR (PLMR). There are two types of comparisons. The Alternatives Analysis provides a side-by-side comparison of two alternatives while the Benchmark Comparison, documented in a companion report,[11] provides a cost performance ratio comparison of similar systems for the same (single) type of alternative (a DOD partnership). This report focuses on the Alternatives Analysis.

Since cost alone is not the sole basis for investment decisions, the EA approach also considered the tangible and intangible benefits and detractors associated with both alternatives. This information was derived from several sources. Primary among these was direct feedback from ALMR stakeholders in the form of face-to-face interviews and comprehensive surveys. We also used documentation from the SDID, an Independent Validation for Cost Reasonableness, and the framework of the Homeland Security Interoperability Continuum.

The analysis was divided into the following tasks.

1.4.1 Cost Factors of ALMR Cooperative Partnership v. Separate Systems

Two alternatives were considered:

- Alternative 1, ALMR Cooperative Partnership (maintain the current shared common resources system)
- Alternative 2, Separate Systems (separate the assets and revert to separate systems)

For Alternative 1, maintaining the ALMR Cooperative Partnership, we analyzed the total stakeholder cost from each major stakeholder perspective. The analysis team reviewed and assessed the validated ALMR stakeholder cost sharing methodology and data previously developed by the government.[12] These costs comprised the majority of stakeholder investment to maintain the existing joint ALMR system.

For Alternative 2, separating the ALMR assets and reverting to Separate Systems, we analyzed stakeholder cost methodology from each major stakeholder perspective. The government provided the technical data and related costs of the recommended alternative to separate the ALMR assets as identified in an independent System Design and Implementation Document

[10] Attachment B, Reference B.1.4, System Design & Implementation Document (SDID) for Alaska Land Mobile Radio (including Appendix A, Feasibility Analysis for DOD/SOA Separation) (FOUO), AKA Separation Study, Motorola, Inc., July 1, 2008

[11] Attachment B, Reference B.2.1, Alaska Land Mobile Radio Independent Validation for Cost Reasonableness, Final Report, Tecolote Research, Inc., 25 February 2009.

[12] Attachment B, Reference B.1.2, Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, Final, September 18, 2008.

(SDID) (Jul 08).[13] This study analyzed DOD and SOA stakeholder requirements and determined rough order of magnitude costs associated with separating ALMR assets into separate systems to meet stakeholder needs as identified during the study.

The analyses identified cost drivers, value of cost incurred to meet stakeholder requirements, perceived equitability and risks from each stakeholder's perspective. This analysis provided the needed insight into the two alternatives from each stakeholder's perspective to facilitate more informed decision making.

Thus, for both alternatives, the analysis team:

- Identified cost drivers.
- Identified the value of costs incurred to meet requirements.
- Assessed the perceived equitability and cost risks for stakeholders.

1.4.2 Non-Cost Factors of ALMR Cooperative Partnership v. Separate Systems

Through face-to-face and telephonic interviews, stakeholders identified their top 3-5 concerns with regard to maintaining the existing ALMR on a cost sharing basis versus the creation of separate systems for each stakeholder. These concerns are documented in Attachment J alongside Government responses to the concerns. The interviews, with accompanying survey, provided stakeholders with information to help make an informed decision regarding cost alternative impacts and the fact-based tangible/intangible benefits and drawbacks resulting from their decisions. Intangibles included, for example, an increase in the ability to interoperate, improved safety and security, improved training, protocols, procedures and standards for establishing and sustaining interoperable communications. Other issues included stakeholder ability to acquire Federal grants as a member of the ALMR were significantly improved and ensure a high probability of grant funding approval and award based on DHS Grant Guidance.[14] The Government contacted stakeholders and established a visit schedule coordinated with the analysis team to conduct these interviews.

The interviews and accompanying survey were able to:

- Identify each major stakeholder's concerns whether to maintain the cooperative.
- Identify and address each major stakeholder's perspectives about establishing individual ALMR capabilities to meet their needs
- Allow the ALMR Joint Project Team to document responses to concerns in this EA
- Probe both cost and non-cost factors of their concerns during the dialog.
- Bottom Line; present sufficient data for stakeholders to make informed decisions whether their organization would be better off with the existing ALMR Cooperative Partnership or implementing a separate system.

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[13] Attachment B, Reference B.1.4, System Design & Implementation Document (SDID) for Alaska Land Mobile Radio (including Appendix A, Feasibility Analysis for DOD/SOA Separation) (FOUO), AKA Separation Study, Motorola, Inc., July 1, 2008.

[14] Attachment B, Reference B.2.5, National Emergency Communications Plan, Department of Homeland Security, July 2008.

After the interviews, stakeholder comments were transcribed and returned to the stakeholder for validation. Those interview comments are documented in Attachment H and summarized in a Benefits table in Section 3 below.

1.5 Ground Rules and Assumptions

The following assumptions were used in this analysis:

- All documentation regarding cost that was provided by the government was accurate and most current available.
- Feedback provided during interviews and surveys represented the perspective of those specific agencies and may not necessarily reflect the opinions of the collective stakeholders.
- The ALMR Executive Council has approved the approach to allocate shared sustainment costs to ALMR stakeholders. However, the allocation method has not been finalized. In order to illustrate a cost comparison, this EA displays overall costs between both alternatives for collective stakeholders.
- While some capital replacement and exercise/training costs will be incurred during the ALMR life cycle, these costs were not identified in the SDID and therefore were excluded in the analysis of both alternatives.
- Whether maintaining ALMR as it exists today or creating separate systems, there is always the potential for expansion and additive capital investment to provide a greater geographic footprint. This EA only considers ALMR as it exists today in comparison to separate systems that would accommodate a similar coverage area.
- Sustainment costs to operate and maintain the ALMR system were reasonable based on an Independent Validation of Cost Reasonableness (IVCR) that benchmarked similar expenses of two other LMR systems.

1.6 Acronyms and References

Attachment A provides a list of acronyms used in this document. Attachment B contains the list of references used in the analysis.

1.7 Acknowledgements/Credits

The project description is synthesized from various project documents, especially all of those listed as references in Attachment B.

ALMR documents were provided by the Government and most are available on the ALMR web site (http://www.ak-prepared.com/almr/).

Interview data were provided by the ALMR Stakeholders listed in Table 1.[15]

[15] Except as noted, all stakeholders provided a face-to-face interview, reviewed and validated the interview synopsis, and submitted a survey. Interview with ATF was not completed. Interview with FNSB is documented in section H.10, but the interview synopsis was not validated by the stakeholder and a survey was not submitted. ALCOM interview was provided by email from a template questionnaire. DOA interview was conducted by teleconference. Elmendorf interview is documented in section H.16, but the interview transcript was not formally validated by the stakeholder.

Table 1. Stakeholder Organizations Surveyed

Ref #	Category	Stakeholder
1	State	Alaska Dept of Transportation/Public Facilities (DOT/PF)
2	State	Alaska State Troopers (AST)
3	State	Alaska Dept of Public Safety (DPS)
4	Non-DOD	Transportation Security Administration (TSA)
5	State	Municipality of Anchorage (MOA)
6	DOD	USARAK
7	DOD	Eielson AFB, AK
8	Locality	Fairbanks Police Department (FPD)
9	Locality	Fairbanks Fire Department (FFD)
10	Locality	North Star Fire Service Area (NSFSA)
11	Locality	Fairbanks North Star Borough (FNSB)
12	Non-DOD	Drug Enforcement Agency (DEA)
13	DOD	Alaska Command (ALCOM)
14	State	Dept of Administration (DOA)
15	Non-DOD	Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF)
16	DOD	Elmendorf AFB, AK

Description information also came from discussions with the ALMR management staff and guidance from conference-call deliberations.

Tecolote Research acknowledges the excellent support provided by all members of the ALMR team and the ALMR stakeholders in providing data and support, fostering cooperation, and responding completely. Further it acknowledges the exceptional cooperation and responsiveness from the Hawaii PLMR and Ft. Lewis LMR program management teams in performing the IVCR.

2 ALTERNATIVES ANALYSIS

The economic analysis considered the cost and non-cost factors of two alternatives as described in section 1.4 above.

- Alternative 1, ALMR Cooperative Partnership (maintain the current system of shared common resources)
- Alternative 2, Separate Systems (separate the assets and revert to separate systems)

This EA provides information regarding the projected cost to maintain the existing ALMR construct compared to the investment and sustainment costs to create separate systems to provide interoperable communications coverage.

"The issue of funding is one of the most difficult challenges identified when developing a shared, statewide mobile radio system. Identifying funding for both the initial capital expenditures and ongoing operational costs for a modern mobile communications infrastructure is essentially a new issue for many jurisdictions. In the past, most jurisdictions operated legacy 'stove pipe' systems built decades ago to meet individual agencies communications requirements. However, the narrowband mandates to conserve spectrum will soon go into effect requiring the replacement of wideband legacy systems."[16] For Federal agencies, the National Telecommunications and Information Administration narrowband mandate is already in place. Post-911 agencies recognize robust interoperability between Federal, State, Local, and Tribal government entities as critical to effective, safe and secure mutual-aid emergency response to natural and man-made disasters.

Cost is the most basic element and common denominator with which to make comparisons between systems. The costs for Alternative 1 were derived from the ALMR Total Cost of Ownership (TCO) Study, dated 18 September 2008. It states that ALMR is comprised of shared infrastructure equipment and user communications components which are further divided into shared and non-shared costs.[17] Shared infrastructure components are those essential for the operation of ALMR and *which benefit all ALMR users.* Non-shared costs, such as subscriber radio procurement and radio maintenance costs were not made available in the TCO. These costs were assumed to be similar in both Alternatives and were excluded from this study.

The costs for Alternative 2 were derived from the System Design and Implementation Document (SDID). This study analyzed the technical requirements for four categories of stakeholders that would provide interoperable communications via independent LMR systems. These stakeholder groups included State of Alaska (SOA), Department of Defense (DOD), Local Governments, and Non-DOD Federal agencies. The study examined various alternatives for a breakup scenario and made recommendations for each stakeholder group. The recommendations addressed cost and non-cost aspects of each alternative. While periodic capital improvements for system upgrades and statewide exercise support were identified in the TCO, they were not captured in the SDID and therefore excluded from the analysis.

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[16] FCC Narrowband Mandate, http://www.ojp.usdoj.gov/nij/topics/technology/communication/fcc-narrowbanding.htm.

[17] Attachment B, Reference B.1.2, Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, Final, September 18, 2008

2.1 Alternative 1: ALMR Cooperative Partnerships

ALMR has already made the capital investment required to standup the system. The purpose of this EA is to compare future costs of sustaining ALMR with those costs to create and maintain separate systems. ALMR is no longer faced with the capital investment costs associated with creating separate systems. The expected lifespan of ALMR extends to 2025. ALMR sustainment costs are the cost drivers for Alternative 1.

The ALMR Total Cost of Ownership (TCO) Study, dated 18 September 2008, states that ALMR is comprised of shared infrastructure equipment and user communications components which are further divided into shared and non-shared costs.[18] Shared infrastructure components are those essential for the operation of ALMR and *which benefit all ALMR users.* Non-shared costs, such as radio subscriber procurement, radio maintenance costs, periodic system upgrades and statewide exercise support were considered similar under both alternatives and not included in the scope of this study. The TCO projected the range of shared infrastructure costs to be approximately $5.2M in FY09 to approximately $8.6M in FY25. Shared infrastructure cost drivers include the following four cost categories:

- Operations Management Office – Contracted cost of the Operations Management Office (OMO) which is responsible for overseeing operations and providing third party oversight of the SMO. The OMO recommends all ALMR policy, procedures, and guidelines; identifies technology and standards; and coordinates intergovernmental resources to facilitate communications interoperability with emphasis on improving public safety and emergency response communications. The Operations Management Office (OMO) is responsible for overseeing the day-to-day operations of the ALMR shared infrastructure. Activities include coordinating and performing a range of operational and administrative activities in direct support of delivering 24/7 ALMR services, developing and administering strategic and operating plans, developing and maintaining relationships with program managers of the ALMR stakeholders and with current and prospective ALMR users, providing administrative support, reports and recommendation to the User Council and Executive Council. The OMO also performs third party quality control of preventative maintenance inspections provided on the System to ensure that it is maintained in accordance with the ALMR Service Level Agreement (SLA). For a complete description of OMO services, see the OMO Customer Support Plan.[19] The FY10 cost is $646,801.

- Systems Management Office – Contracted costs of the System Management Office (SMO) which is responsible for the wide area system management, asset management, help desk, system maintenance, technical support, network operations support and security and information assurance management. SMO major functions[20] include: Integrated System Management Services and maintenance services oversight, System Technology Functions, Contractor Requirements & Qualifications for System Technologist Functions, ALMR Shared Asset and System Inventory Management,

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[18] Attachment B, Reference B.1.2, Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, Final, September 18, 2008, p. 3.

[19] Refer to the System Management Office Customer Support Plan for more detailed explanation of the services listed and to Attachment B, Reference B.1.7, Operations Management Office (OMO) Customer Support Plan, Wostmann & Associates, Inc. and the 5 Star Team, January 3, 2008.

[20] Attachment B, Reference B.1.6, System Management Office (SMO) Customer Support Plan, section 1.3.

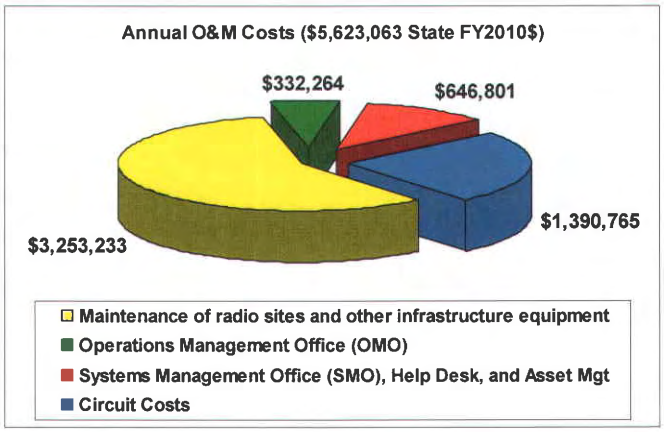
Disaster Response, Identify, Communicate and Track Issues to Resolution, Develop Action Plans for System Changes, Support ALMR Users Group, Develop Technical Training Plans, Support Technology Planning, Coordinate System Configuration Management and Administration, Communicate System Performance, Key Management, and Coordinate Change Management Process, and Manage Help Desk Support. The FY10 cost is $1,390,765.

- Equipment Maintenance – Contracted costs for the maintenance of all ALMR shared infrastructure equipment. The approach that ALMR has agreed to with regard to infrastructure maintenance assumes that the agency that made the capital investment for infrastructure used in the shared system was procured as an independent operational requirement by that agency and is required independent of any shared use. Currently, the outsourced maintenance provided is based upon the quality of service and levels of maintenance agreed to by stakeholders in the SLA. This includes OEM trained technologists provided as in-state resources to meet all ALMR infrastructure maintenance requirements. Out-of-state resources are also made available as needed for additional support if required to maintain the ALMR system. Maintenance includes: Preventive Maintenance Inspection, 24/7 system OEM Certified Technician monitoring and repair response, parts replacement and network security monitoring. (Due to the critical nature of the services supported by ALMR, the User Council has requested that ALMR be operated and maintained at the highest level of maintenance defined in the SLA. The FY09 cost is $3,253,233.

- Circuit Usage – Costs of circuits (primarily SATS) utilized by ALMR. They include microwave and fiber cable that connects radio sites to controllers an ancillary dispatch, network management, and other equipment to the master and zone controllers.[21] Based on current usage information provided by the SOA, ALMR shared infrastructure costs for utilization of SATS circuits have been projected at 6.75% of the SOA total annual SATS operating and maintenance costs. The FY09 cost is $332,264.

The projected FY10 ALMR costs for shared infrastructure were presented to the ALMR EC in August 2008 and are shown in Figure 2.

Figure 2. Annual O&M Costs



[21] Based on current usage information provided by the SOA, ALMR shared infrastructure costs for utilization of SATS circuits have been projected at 6.75% of the SOA total annual SATS operating and maintenance costs.

2.2 Alternative 2: Separate Systems

According to the SDID "ALMR is a unique federal, state and local government.....system that takes advantage of the shared nature of trunking systems and inherent economies of scale to serve a large number of government users on a statewide basis. The system is a model of efficiency, advanced technology, and interoperability that serves as an example for other states to emulate." The study continues by stating that periodically the question arises whether ALMR is the best solution for all stakeholders rather than creating separate systems. The SDID documented the technical and financial impacts of various alternatives and made recommendations for different stakeholder groups. This EA uses SDID recommendations as the basis for Alternative 2.

The SDID made several assumptions that affected cost. It presented a "worst case" scenario for their alternatives to compensate for unknown variables. Costs were estimated as a "rough order of magnitude" based on proposal history. System Integration costs were considered equal to 50% of equipment costs and O&M was based on historical data for ALMR.

Capital investment for each stakeholder is the most significant cost driver to developing new separate systems. Whereas with ALMR, this is a sunk cost that will not have to be replicated until ALMR is replaced by a new system leading up to its expected life expectancy of 2025. In addition to capital investment, sustainment is also a major cost driver in Alternative 2. As with any system, there are services costs to manage and maintain the infrastructure. Cost drivers are described in the following paragraphs.

- Capital Investment. In all the recommended scenarios presented in the SDID, stakeholders would be required to make significant capital investment to create separate systems. The SDID recommendations conceptually designed separate systems and took into consideration which existing ALMR assets would fit into these new constructs and which assets would have to be replaced, modified or augmented. Investments included new trunking repeaters, reconfiguration of master sites and consoles, construction of new sites, modification of existing sites, hand held radios, dispatch equipment, purchase of FCC licensing services and the purchase of interoperability equipment. While ALMR operates under the concept that all subscribers share common infrastructure assets, separate systems would require investment in parallel systems connected via equipment included in their new design. Initial capital investment costs represent roughly one third of the life cycle costs for SOA and DOD to establish separate LMR systems when applying the SDID recommended alternatives.

- Sustainment. These categories of costs are similar to those of ALMR. Services include system technologists, security and network monitoring and connectivity. Maintenance encompasses master sites, RF sites, recorders, motobridges, and NM clients (excludes consoles, KMF, and subscriber radios). The SDID included basic service and maintenance cost to sustain separate systems. The cost and scope of services estimated in the SDID represent the basics to operate a separate system. These services are considerably less robust and less comprehensive when compared to services provided by ALMR. For instance, ALMR provides user training, technology assistance, established protocols and formal help desk support to support stakeholders and promote cross agency interoperability. These costs would be additive for stakeholders of separate systems.

3 QUANTITATIVE RESULTS

This section presents the economic analysis of ALMR that focuses on the cost of the two alternatives. The alternatives analysis examines the life cycle cost of the current ALMR Cooperative Partnership and the alternative life cycle cost of Separate Systems.

3.1 Life Cycle Cost Estimate of Alternative 1

Alternative 1, ALMR Cooperative Partnership, used cost data provided in the Total Cost of Ownership study[22] detailed in Attachment C. There are four primary cost categories that comprise the operations and sustainment costs for ALMR as it exists today. These are the Operations Management Office, Systems Management Office, equipment maintenance for shared infrastructure, and circuit costs. These costs are listed in Table 2 below.

Table 2. Life Cycle Cost Estimate of Alternative 1

Shared Infrastructure Operations and Sustainment					
Fiscal Year	Operations Management Office	System Management Office	Equipment Maintenance	Circuits	Then-Year $ Total
2009	$629,000	$1,352,490	$2,896,984	$323,120	$5,201,594
2010	$646,801	$1,390,765	$3,252,375	$332,264	$5,622,205
2011	$665,105	$1,430,124	$3,344,417	$341,667	$5,781,313
2012	$683,927	$1,470,597	$3,439,064	$351,336	$5,944,924
2013	$703,282	$1,512,215	$3,536,390	$361,279	$6,113,166
2014	$723,185	$1,555,011	$3,636,470	$371,503	$6,286,169
2015	$743,651	$1,599,018	$3,739,382	$382,017	$6,464,068
2016	$764,696	$1,644,270	$3,845,206	$392,828	$6,647,000
2017	$786,337	$1,690,803	$3,954,026	$403,945	$6,835,111
2018	$808,590	$1,738,653	$4,065,925	$415,377	$7,028,545
2019	$831,473	$1,787,857	$4,180,990	$427,132	$7,227,452
2020	$855,004	$1,838,453	$4,299,312	$439,219	$7,431,988
2021	$879,201	$1,890,481	$4,420,982	$451,649	$7,642,313
2022	$904,082	$1,943,982	$4,546,096	$464,431	$7,858,591
2023	$929,668	$1,998,997	$4,674,750	$477,574	$8,080,989
2024	$955,978	$2,055,569	$4,807,045	$491,090	$8,309,682
2025	$983,032	$2,113,742	$4,943,084	$504,988	$8,544,846
Total Costs	$13,493,012	$29,013,027	$67,582,498	$6,931,419	$117,019,956

ALMR has an expected life cycle that extends to 2025. FY10 estimated costs for each category were inflated by 2.83% annually. This inflation rate is based on the average Consumer Price Index (CPI) for Anchorage for 2005 through 2007. The total life cycle cost is $117,019,956.

[22] Attachment B, Reference B.1.3, Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, DRAFT, Version 2.0, August 18, 2008, AKA, First TCO Study.

3.2 Life Cycle Cost Estimate of Alternative 2

Alternative 2, Separate Systems, used cost data provided in the Separation Study[23] detailed in Attachment D. The Separation Study assessed two alternatives for each of the four stakeholder categories; the Study recommended alternatives are shown below.

Life cycle costs for SDID recommended alternatives are represented by capital investment and sustainment costs. Capital investment is derived from the cost to purchase physical equipment assets and the services required to design, develop, construct and integrate a separate LMR system. Sustainment costs are comprised of services and maintenance to operate the system on a continuing basis. Table 3 displays the cumulative SDID estimated initial capital and recurring costs associated with the recommended alternative for each stakeholder group.

Table 3. Initial Capital and Recurring Costs of Alternative 2

Capital Investment Costs (FY09$)				
	DOD	SOA	Local	Total
Equipment	$27,309,000	$54,422,000	$8,598,000	$90,329,000
System Integration	$9,011,970	$17,959,260	$2,728,440	$29,699,670
Total Capital	$36,320,970	$72,381,260	$11,326,440	$120,028,670
Sustainment Costs (FY08$)				
Services	$2,392,996	$2,420,624		$4,813,620
Maintenance	$999,508	$3,331,204	$148,500	$4,479,212
Total O&M Costs	$3,292,504	$5,751,828	$148,500	$9,292,832

Table 4 below depicts the same life cycle timeframe as used for ALMR computed for Alternative 1. Realistically, the timeframe for design, decision making and implementation would be spread over a much longer period of time. For simplicity sake, the EA used capital costs in the first year and recurring sustainment costs in each subsequent year thereafter, inflated at 2.83% per year as in Alternative 1.

[23] Attachment B, Reference B.1.4, System Design & Implementation Document (SDID) for Alaska Land Mobile Radio (including Appendix A, Feasibility Analysis for DOD/SOA Separation) (FOUO), AKA Separation Study, Motorola, Inc., July 1, 2008

Table 4. Life Cycle Cost Estimate of Alternative 2

Fiscal Year	DoD	SOA	Local	Then-Year $ Total
2009	$36,320,970	$72,381,260	$11,326,440	$120,028,670
2010	$3,587,237	$6,081,988	$157,024	$9,826,249
2011	$3,688,756	$6,254,108	$161,468	$10,104,332
2012	$3,793,147	$6,431,100	$166,037	$10,390,284
2013	$3,900,493	$6,613,100	$170,736	$10,684,329
2014	$4,010,877	$6,800,250	$175,568	$10,986,696
2015	$4,124,385	$6,992,697	$180,537	$11,297,619
2016	$4,241,105	$7,190,591	$185,646	$11,617,342
2017	$4,361,129	$7,394,085	$190,900	$11,946,113
2018	$4,484,549	$7,603,337	$196,302	$12,284,188
2019	$4,611,461	$7,818,512	$201,857	$12,631,830
2020	$4,741,966	$8,039,775	$207,570	$12,989,311
2021	$4,876,163	$8,267,301	$213,444	$13,356,909
2022	$5,014,159	$8,501,266	$219,485	$13,734,909
2023	$5,156,059	$8,741,852	$225,696	$14,123,607
2024	$5,301,976	$8,989,246	$232,083	$14,523,305
2025	$5,452,022	$9,243,642	$238,651	$14,934,315
Total Costs	$107,666,453	$193,344,109	$14,449,444	$315,460,007

The same inflation index used in Alternative 1 was applied above for recurring costs. The total life cycle cost to create new separate systems is $315,460,007.

3.3 Results of Alternatives - Cost Comparison

The alternatives analysis compared the cost of the ALMR Cooperative Partnership versus Separate Systems. The cost of Alternative 2 significantly exceeds Alternative 1. While sustainment costs alone are greater, the primary driver is the capital investment required to create separate systems.

Table 5 compares the high-level summary of the capital and operations and maintenance (O&M) costs in millions of dollars ($M) for the two alternatives and shows the cost advantage of Alternative 1, ALMR Cooperative Partnership. Additional explanations are provided in section 3 of this report.

Table 5. Cost Comparison of Alternatives ($M)

Life Cycle Cost Estimate FY2009-2025	Total $M
Alternative 1, ALMR Cooperative Partnership	$117.0
Alternative 2, Separate Systems	$315.5
Alternative 1 Cost Avoidance	$198.5

This comparison shows the significant cost avoidance associated with the ALMR Cooperative Partnership.

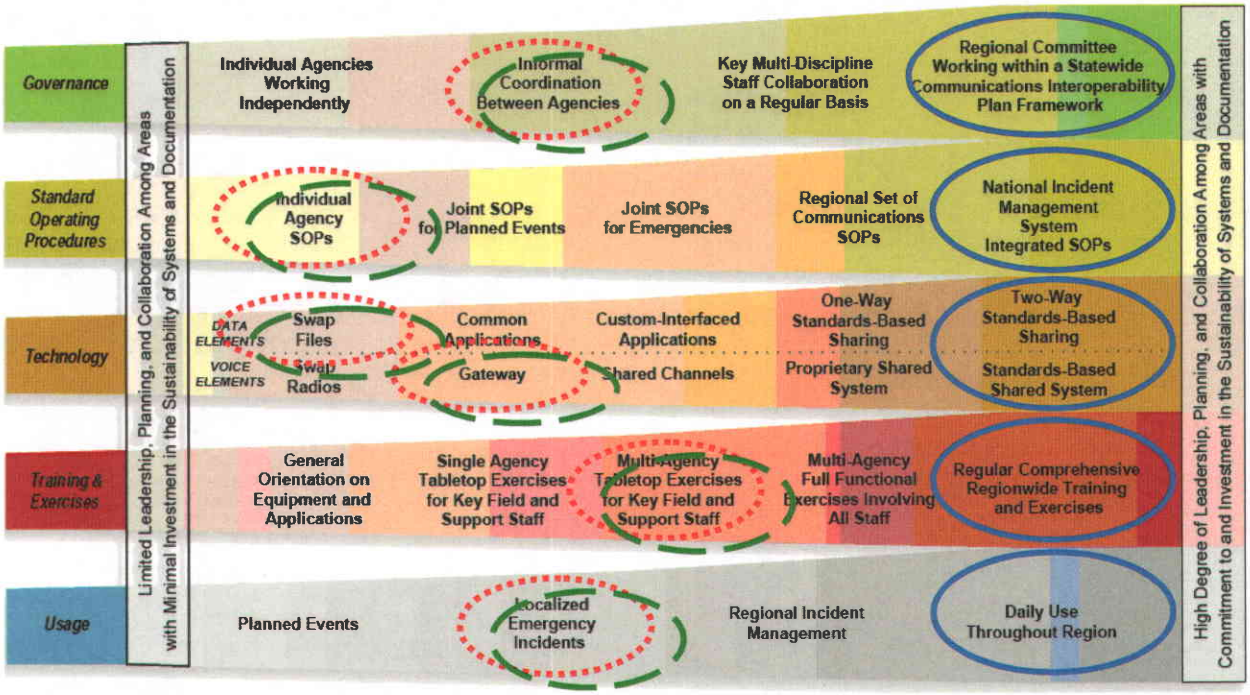
3.4 Alternatives Analysis - Non-Cost

Costs are not the only consideration. Different architectures for LMR implementations not only have differing costs, but differing service levels and benefits to Stakeholders. The following sections analyze the level of service each alternative provides based on the SAFECOM Interoperability Continuum as a standard and the results of interviews and surveys conducted with ALMR Stakeholders. The benefits are then summarized based on perceived equitability and cost risks from stakeholder perspective along with the tangible and intangible aspects, both positive and negative, as expressed by each stakeholder.

3.4.1 Level of Services Provided Based on SAFECOM Interoperability Continuum

Figure 3 shows the SAFECOM Interoperability Continuum developed by the Department of Homeland Security. Many of the Stakeholder Survey questions were related to each of the sub-elements of interoperability: Governance, SOPs, Technology, Training and Exercises, and Level of Usage. The solid blue ellipses indicate where stakeholders place ALMR on the interoperability continuum. The dashed red ellipses estimate placement of stakeholder legacy systems or a perceived separate system (i.e., EA Alternative 2).

Figure 3. SAFECOM Interoperability Continuum for Stakeholder Legacy Systems and ALMR



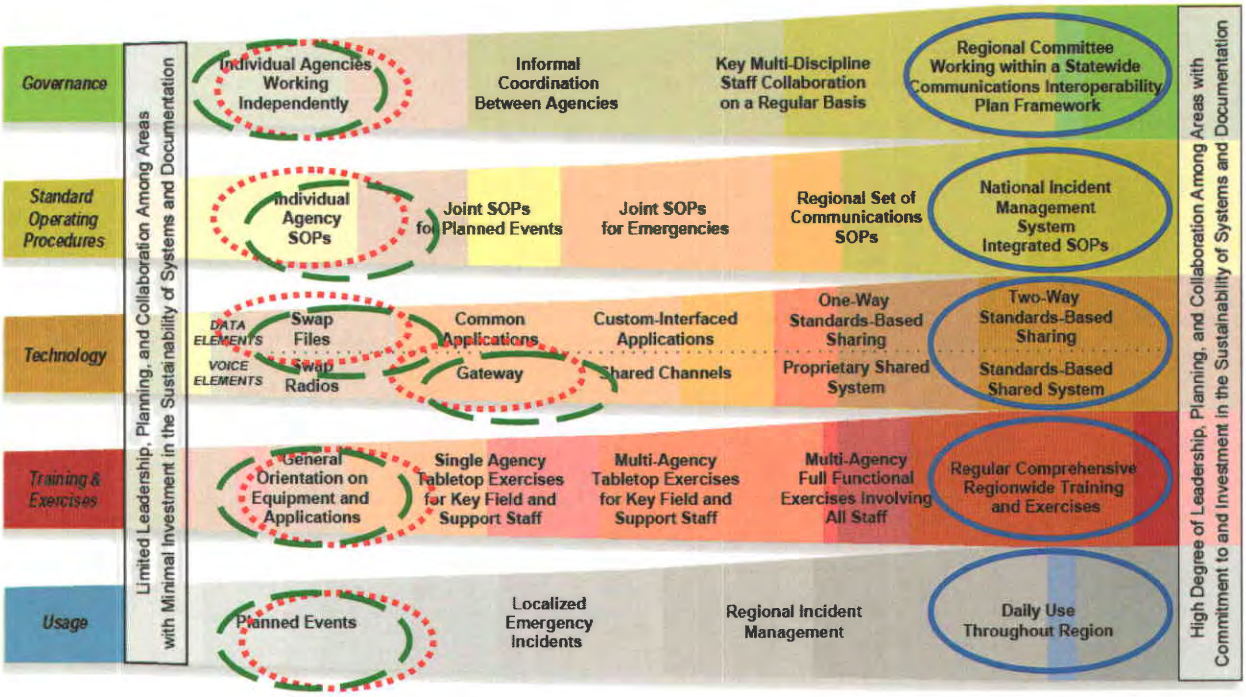
The highest level of interoperability on the SAFECOM Interoperability Continuum is on the right side of the chart. Multi-agency enterprises such as ALMR generally find it easier to achieve this level because these Continuum standards rely heavily on inter-agency cooperation and willingness to adhere to policies and protocols that affect the entire group. An independent LMR group exercises much more autonomy over its agency's actions but must work much harder to achieve interoperability with outside organizations. Figure 4 clearly illustrates that ALMR

stakeholders are fully aware that reverting to separate LMR systems would be a regression compared to what they experience today.

3.4.2 Level of Services Provided Based on Comparison of Services Provided by ALMR and Two Other Benchmark LMR Systems

The IVCR compared the services and operating levels afforded by ALMR with two other benchmark LMR systems. The services provided by each system were not completely identical. This can be attributed to differences in LMR charters, operating standards and stakeholders' intent for levels of capability and scope of subscriber pool. To make a comparison between different LMR systems, we assessed functions that were performed for each enterprise. While one system may have had requirements for a particular service, others did not or it wasn't applicable. The second version of the Continuum depicted in Figure 4 reflects scoring related to how each LMR meets SAFECOM standards in terms of an ***inter-agency*** perspective.

Figure 4. Inter-Agency SAFECOM Interoperability Continuum with LMR System Assessment



Note that ALMR is again at the far right of the Continuum, but the Ft. Lewis and PLMR systems are at the lowest end of the continuum on the far left. The exception is in technology where PLMR and Ft. Lewis have limited cross-band repeater and patch capabilities with local government. This is logical because the Continuum was designed to address communications interoperability between federal, state and local first responders. The ALMR system was designed from the start to overcome this challenge. Conversely, the Ft. Lewis and PLMR systems were designed to support primarily intra-agency communications. ALMR maintains a much higher level of interoperability that satisfies the five focus areas of DHS's SAFECOM Continuum across Federal, state, and local government agencies and independent agency-owned systems. This is primarily manifested in the governance, SOPs, training and exercises necessary to effectively operate a multi-agency, multi-jurisdictional system over a large

geographical area. However, the robustness and maturity of interoperable communications is significantly increased under the standard shared system approach addressing these five focus areas of the Continuum. ALMR stakeholders expressed concerns during interviews and in survey responses that separate systems would degrade their effectiveness both internally and collaboratively with other agencies during emergency response events.

3.5 ALMR Stakeholder Feedback

The EA team conducted face-to-face or telephonic interviews with 16 key stakeholders regarding their participation in ALMR. We solicited their top concerns/issues with continuing the present ALMR Cooperative Partnership versus an alternative that would divide ALMR into separate entities. Each of the stakeholders also submitted an in-depth survey with their substantiated opinion on a variety of topics related to system operation. The Stakeholder Survey sent to key stakeholders (see Table 1 above and Table H-1 below) included 99 questions that had a checkbox selection for most and a textbox for Substantiation/Comment for each (see Attachment G through Attachment J). Table I-2 in Attachment I lists 17 topics covered in that survey. The following section discusses the results of the surveys by topic.

3.5.1 Interview and Survey Results

Survey results were consolidated and synthesized in a sequence of combinations. Attachment I contains the (raw) details of the surveys, both for the checkbox results and the textbox narrative. Attachment J refines those comments by synthesizing comments into a summary table for each question. The Benefits table is derived from that consolidation combined with interview results.

The first page of the Stakeholder Survey outlined the 15 topics that were addressed in the face-to-face interviews. The details of those interviews are in Attachment H.

Attachment J synthesizes all the comments and uses them to compile the tangible and intangible benefits and detractors selectively summarized in the following section.

3.5.2 Summary of Benefits and Detractors of ALMR versus Separate Systems

The following series of tables, Table 6 through Table 14, capture the benefits (↑) and detractors (↓) gleaned from Attachment G through Attachment J with respect to each of the two alternatives considered for ALMR as derived from published guidance, prior studies and analysis and judgments of stakeholders from face-to-face and telephonic interviews and a written survey. In these tables the use of ALMR by stakeholders represents the ALMR Cooperative Partnership for an LMR system under the governance of regional/statewide councils compared to separate system managed by stakeholders.

Table 6. Benefits and Detractors of Alternatives - Governance

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems
↑ Provides framework for collaborative decision making representing common stakeholder objectives ↑ Common governing structure provides venue for solving interoperability issues by improving policies, processes and procedures of any major project ↑ Enhances communication, coordination and	↑ Governance needed only to accommodate the requirements of an individual stakeholder. No requirement to coordinate or achieve consensus among different organizations ↑ While compliance with National Policy is a benefit it may not impact borough, smaller city and volunteer organization

cooperation to reduce internal jurisdictional conflicts ↑ Requires compliance/agreement among multiple organizational levels ↓ Involves time commitment compromises with other agency stakeholder to meet on a regular basis	↑ Creates an inherent absence of coordination between stakeholders of separate systems that has to be overcome through numerous formal written agreements ↓ Presents limited opportunity to resolve communications interoperability challenges with other LMR system agencies

Table 7. Benefits and Detractors of Alternatives – Narrowband Mandates

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems
↑ Fully compliant; all frequencies are shared (public safety included, which must be shared) ↑ ALMR stakeholders stated their compliance effectively increases safety and security response with appropriate levels of interoperability ↑ Compliance is highly attributable to securing federal grants	↑ Approximately half of ALMR stakeholders stated moving to separate systems would not affect compliance with Narrowband Mandates ↓ Many legacy systems are wide band and non-compliant ↓ Multitude of systems must use same limited number of frequencies. Separation of joint frequencies is a major challenge

Table 8. Benefits and Detractors of Alternatives - Interoperability

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems
↑ Fully interoperable ↑ Police officers particularly appreciate the added safety and security of always-available interoperability radios ↑ ALMR can be activated for emergency situations; reduces the risk of interoperability problems by using a validated system, proven through regular training and exercises. ↑ Maximizes current levels of cooperation between all levels of government	↓ May not be fully interoperable with other agencies ↓ Bridges may be required to make disparate systems interoperable

Table 9. Benefits and Detractors of Alternatives – Standard Operating Procedures

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems
↑ Maintains formal written guidelines and instructions for incidence response. Enables emergency responders to successfully coordinate incident response across disciplines and jurisdictions ↑ Ability to provide clear and effective ground rules for development and deployment of any interoperable communications solution	↓ SOPs may only exist within individual agencies and are not shared, resulting in uncoordinated procedures and/or incompatible data systems among agencies and could hinder effective response ↓ Requires independent stakeholders to invest time and attention to develop Joint SOPs with outside agencies

Table 10. Benefits and Detractors of Alternatives – Technology

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems
↑ Successful communications technology is supported by strong governance and collaboration among stakeholders ↑ Technology is scalable and addresses needs at all levels, existing infrastructure requirements, cost vs benefits, and sustainability ↑ Security and authentication challenges are considered in all implementation decisions. ↑ Employs Two-Way Standards Based Sharing of data files. This increases access to information, improves user functionality, and permits real-time collaborative information between agencies. ↓ Concern exists that ALMR will "chase latest technology" that may exceed user requirements and place "early to need" costs on stakeholders	↓ Depending on applications employed, data sharing between agencies could be limited to static snapshots of information in a given time period. Workarounds to mitigate shortfalls include coordinated use of common applications, custom interfaced applications or one-way standards-based sharing solutions ↓ Requires minimal planning and training to share data with other agency systems but can hinder real time information exchanges. ↓ Relies on radio swapping or maintaining a cache of standby radios that can be time-consuming, management intensive and likely to provide limited results due to channel availability ↓ Interoperability requires Gateways, shared channels or proprietary shared systems all of which drive a cost , coordination and agreement with other agencies

Table 11. Benefits and Detractors of Alternatives – Training and Exercises

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems
↑ Plans and conducts recurring, comprehensive and realistic exercises that includes all stakeholders to test system effectiveness and address potential problems ↑ Has an established Operations Management function that provides classroom and one-on-one training to new system users. Mitigates cost to stakeholder participants ↑ Current level of integrated government exercising did not exist prior to ALMR stand up	↑ Can limit scope of training and exercise responsibility only to subscribers on the separate LMR system ↓ Agencies generally provide initial orientation to users regarding their respective equipment. Multi-agency or multi-jurisdictional operations are not a primary focus. ↓ Single agency activities do not promote interoperability across disciplines and jurisdictions

Table 12. Benefits and Detractors of Alternatives – Usage

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems
↑ Interoperability systems are used every day for managing routine as well as emergency incidents ↑ Users are familiar with the operation of the system and routinely work in concert with one another	↑ Provides acceptable daily use and employment during emergency response situations ↓ Generally requires work arounds, gateways, radio swapping, cache radios, to be interoperable with other LMR systems and agencies

Table 13. Benefits and Detractors of Alternatives – Cost Sharing

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems

↑ Provides the most comprehensive interoperability capabilities for the least cost to stakeholders ↑ Capital investment in infrastructure and subscriber equipment already made. Maintaining ALMR precludes significant costs to build separate systems ↑ None of the ALMR stakeholders considers it economically sound to cease their partnership to pursue separate LMR systems ↓ The majority of stakeholders stated they incurred increased costs for National Policy compliance and interoperability ↓ Depending on the cost sharing method, some stakeholders feel they are paying for collective requirements that exceed their individual needs	↓ Would be generally more expensive to cost prohibitive to make extensive capital investment to implement/ maintain a separate system that would achieve the highest level of interoperability currently provided by ALMR ↑ For local government a separate system will provide coverage only in the area required. Owner will upgrade only when required and not share in cost of technology upgrades that exceed their needs. ↓ May require 10% to 20% additional sites for SOA because change from VHF to 700MHz equates to reduced coverage ↓ Non-DOD Federal would revert to legacy systems and incur significant costs to overcome loss of coverage and interoperability

Table 14. Benefits and Detractors of Alternatives – Risk Factors (from Separation Study)

Alternative 1, ALMR Cooperative Partnership	Alternative 2, Separate LMR Systems
↓ Provides higher fidelity on future costs but uncertainty exists on how costs will be shared	↓ Provides benefits to local government but additional cost of new subscriber and dispatch equipment may preclude participation without state assistance ↓ Reduced coverage for SOA on 700 MHz will require additional sites ↓ Possible loss of system availability during conversion and separation process ↓ Difficulty in obtaining sufficient 700 MHz and 380 MHz NTIA channels for wide area trunking ↓ All fixed and subscriber RF equipment will have to be replaced/moved from sites currently owned by others

4 CONCLUSIONS AND RECOMMENDATIONS

ALMR provides significant value: it meets operational requirements and has a sustainment cost that is reasonable compared to other systems. In addition, it would be far more costly to create separate systems than to maintain the existing cooperative. The lifecycle costs to operate ALMR are approximately $117M compared to $315M to replicate separate systems. The predominant differences between these two alternatives are the capital investment cost and the cost to operate and maintain multiple systems. For ALMR capital assets have already been acquired and the infrastructure is in place. The creation of separate systems would drive enormous upfront costs to construct. Even local government and non-DOD agencies would incur significant expense to acquire new equipment making this a cost prohibitive venture.

Even with cost aside, the vast majority of ALMR stakeholders, without reservation, support the ALMR Cooperative Partnership. They feel the governance is working and providing a necessary function to effectively and efficiently use available narrowband frequencies at a reasonable cost. Most are well aware that due to the issue of limited frequencies alone, there is no way to "go back" or separate the system. Only one stakeholder even expressed considering a separation, but noted the need for further study to determine feasibility and cost.

The contribution of all would still serve to deliver a system that is an economically sound solution for all parties. The total benefit and capability could not be obtained separately by any major stakeholder group when considering the estimated capital and sustainment costs. Therefore, any contribution by one brings economic benefit to all others. This conclusion is supported by stakeholder-substantiated opinions in face-to-face interviews, from in-depth surveys, and based on experience and analysis.

The bottom line is:

- ALMR is in compliance with national policy for Land Mobile Radio (LMR) Systems.
- Compliance provides a robust product with notable benefits.
- Stakeholders with statewide responsibilities recognize and appreciate the benefits.
- Even stakeholders with pockets of responsibility where a less robust system might be sufficient (e.g., in DOD and at local level) do perceive the value as highly desirable.
- Economic analysis demonstrates that it is more valuable to all stakeholders, due to economies of scale, to retain the current ALMR Cooperative Partnership than to operate and maintain separate systems.
- Stakeholders derive great benefits from the ALMR Cooperative Partnership, such as technical expertise, narrowband compliance, and greater levels of interoperability they could not achieve autonomously without significant additional cost to their organizations.

Three conclusions can be drawn from this economic analysis.

- The ALMR Cooperative Partnership is a sound solution for federal, state and local government agencies, both operationally and financially.
- The cost of separating is greater than the cost of maintaining ALMR.
- Services and related costs are properly "sized" for Alaska.

Attachment A

List of Acronyms

$M	Cost in millions of dollars
AFB	Air Force Base (US DOD)
ALMR	Alaska Land Mobile Radio
CIO	Chief Information Officer
DIACAP	DOD Information Assurance Certification and Accreditation Process (US DOD)
DISA	Defense Information Systems Agency (US DOD)
DOD	Department of Defense
DPW	Department of Public Works
DSN	Defense Switched Network
EA	Economic Analysis
EMS	Emergency Medical Services
FTE	Full Time Equivalent (Civil Service labor year)
FY	Fiscal Year
G&A	General & Administrative
GFE	Government Furnished Equipment
IOC	Initial Operational Capability
IVCR	Independent Validation for Cost Reasonableness
LMR	Land Mobile Radio
MDT	Mobile Data Terminal
MOA	Municipality of Anchorage or Memorandum of Agreement
N/A	Not Applicable or Not Available
NDA	Non-Disclosure Agreement
NTIA	National Telecommunications and Information Administration
OEM	Original Equipment Manufacturer
OJT	On-the-Job Training
OMA	Operations & Maintenance Army (appropriation account) (US DOD)
OMO	Operations Management Office
OPA	Other Procurement, Army (appropriation account) (US DOD)
OTAR	Over the Air Re-keying
PEO	Program Executive Officer (US DOD)
PM	Program Management or Project Management
PMI	Preventative Maintenance and Inspections
PWS	Performance Work Statement
QA/QC	Quality Assurance/Quality Control
RF	Radio Frequency
SDID	System Design & Implementation Document
SFY	State of Alaska Fiscal Year (July - June)
SLA	Service Level Agreement

SMO	System Management Office
SOA	State of Alaska
SOW	Statement of Work
SPAWAR	Space & Naval Warfare Systems Command (US Navy)
STIG	Security Technical Implementation Guide
TCO	Total Cost of Ownership
UHF	Ultra High Frequency
UPS	Uninterruptable Power Supply
VHF	Very High Frequency
WBS	Work Breakdown Structure
WSP	Washington State Patrol

Attachment B

Reference Documents

B.1 ALMR Documents

B.1.1 Alaska Land Mobile Radio Internet Home Page, ALMR Joint Program Team, as of 4 February 2009

B.1.2 Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, Final, September 18, 2008

B.1.3 Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, DRAFT, Version 2.0, August 18, 2008, AKA, First TCO Study

B.1.4 System Design & Implementation Document (SDID) for Alaska Land Mobile Radio (including Appendix A, Feasibility Analysis for DOD/SOA Separation) (FOUO), AKA Separation Study, Motorola, Inc., July 1, 2008

B.1.5 Alaska Land Mobile Radio System Feasibility Analysis for DOD/SOA Separation (AKA Separation Study), Appendix A to ALMR System Design and Site Implementation Document, July 1, 2008

B.1.6 System Management Office (SMO) Customer Support Plan, Version 1, Bering Straits Information Technology, LLC, February 6, 2008

B.1.7 Operations Management Office (OMO) Customer Support Plan, Wostmann & Associates, Inc. and the 5 Star Team, January 3, 2008

B.1.8 Alaska Land Mobile Radio Interoperability Policy

B.1.9 Cooperative Agreement, Appendix C, Organizational Structure, February 14, 2008

B.1.10 Performance Work Statement, Economic Analysis, Alaska Land Mobile Radio (ALMR), August 2008

B.1.11 Alaska Land Mobile Radio (ALMR) Cost Share Update briefing, August 21, 2008

B.1.12 Cost Share White Paper for the Alaska Land Mobile radio Communications System, The ALMR User Council, January 2, 2008

B.1.13 Alaska Land Mobile Radio Communications System Cooperative Agreement, Appendix E, Membership Agreement, August 21, 2008

B.1.14 Current Users on the Alaska Land Mobile Radio (ALMR) Communications System, undated.

B.1.15 Agencies on ALMR System, ALMR Web Site, undated

B.1.16 Radio Frequencies, US Department of Justice, February 2006

B.1.17 "Understanding FCC Narrowbanding Requirements", US Department of Justice, undated web page

B.1.18 20090105 LMR Services Comparison.doc, ALMR Joint Program Team, 1 January 2009

B.1.19 Email, Subject: RE: ALMR IVCR Data Review: Weighting, 9 January 2009

B.2 Other Documents

B.2.1 Alaska Land Mobile Radio Independent Validation for Cost Reasonableness, Final Report, Tecolote Research, Inc., 25 February 2009

B.2.2 Interoperability Continuum Brochure, Department of Homeland Security, undated

B.2.3 "Why Can't We Talk?, Working Together to Bridge the Communications, A Guide for Public Officials," US Department of Justice, February 2005

B.2.4 "Strategies for States to Achieve Public Safety Wireless Interoperability", ©NGA Center for Best Practices, 444 North Capitol Street, Suite 267, Washington, D.C. 20001, September 15, 2003

B.2.5 National Emergency Communications Plan, Department of Homeland Security, July 2008

B.2.6 Alaska Land Mobile Radio Executive Summary, Tecolote Research, Inc., 5 March 2009

Attachment C

ALMR Cooperative Partnership Cost Estimate

The Alternatives Analysis of this EA compares cost and non-cost factors (intangible benefits) of two alternatives: (1) continuing the ALMR Cooperative Partnership on a cost sharing basis versus (2) separating the assets and reverting to separate systems. This attachment addresses the costs associated with the first of the two alternatives: ALMR Cooperative Partnership. (See Attachment D for the cost estimate for the other alternative, Separate Systems.)

Total Cost of Ownership Study[24] (TCO) is the source document for the cost estimates for the ALMR Cooperative Partnership alternative (EA Alternative 1). This attachment provides a brief summary of the cost estimate of shared infrastructure O&M costs.

C.1 ALMR Cooperative Partnership Cost Estimate

The TCO provided an analysis of historical and future costs of ALMR as it currently exists as an ALMR Cooperative Partnership. ALMR "is being operated under a Cooperative Agreement between the principal stakeholders: the U.S. Department of Defense (DOD), the State of Alaska (SOA), and the Federal Executive Association (FEA) of Alaska. The ALMR stakeholders are executing an interoperability communication strategy that ensures ALMR is operated in compliance with the U.S. Department of Homeland Security (DHS) guidelines. The principal objective of ALMR is to provide reliable, on-demand and in real time, secure interoperable communications for emergency responders in Alaska across federal, state, and local government agencies. ALMR supports multi-agency/multi-jurisdictional public safety responses to mutual aid, emergency and medical response situations, while also meeting day-to-day land mobile radio communications needs." The primary objective of the TCO was to identify and quantify future ALMR operations and maintenance (O&M) costs. These future costs were then further classified into those that are candidates to be shared by all System users and those that will be paid solely by the agency that incurs them. All future ALMR O&M costs are driven by the level of service defined in the ALMR Service Level Agreement (SLA).

TCO Table III.3, Projected Potential Future ALMR Total Costs For State Fiscal Years 2009 Through 2025, provided a summary of capital and annual O&M cost by year for the 15-year period, as shown below.

[24] Attachment B, Reference B.1.2, Alaska Land Mobile Radio Communications System, Total Cost of Ownership Study, Final, September 18, 2008.

Table III.3
Projected Potential Future ALMR Total Costs
For State Fiscal Years 2009 Through 2025
(In thousands)

Fiscal Year	Operations & Maint.	System Upgrades	Oversight & Coord.	Exercise Support & Training	Total
2009	$ 5,202		$ 263	$ -	$ 5,465
2010	5,622		270	343	6,236
2011	5,782		278	-	6,060
2012	5,945	3,500	286	362	10,093
2013	6,113		294	-	6,408
2014	6,286		302	383	6,972
2015	6,464	3,806	311	-	10,581
2016	6,647		320	405	7,372
2017	6,835		329	-	7,164
2018	7,029	4,138	338	428	11,933
2019	7,228		348	-	7,575
2020	7,432		357	453	8,243
2021	7,643	4,499	368	-	12,509
2022	7,859		378	479	8,716
2023	8,081		389	-	8,470
2024	8,310	4,892	400	506	14,108
2025	8,545		411	-	8,956
Total	$ 117,026	$ 20,835	$ 5,642	$ 3,359	$ 146,861

Using only the Operations & Maintenance costs (as shared infrastructure) and rolling up the cost to the top-line produces the summary life cycle cost estimate in Table C-1. (No breakout is available for stakeholder share, as is given for Alternative 2 in Attachment D.)

Table C-1. EA Separation Alternative Life Cycle Cost Estimate

Alternative	Life Cycle Cost Estimate FY2009-2025				
	Total	DOD	SOA	Local	Federal
Alternative 1, ALMR Cooperative Partnership	$117.0	N/A	N/A	N/A	N/A

C.2 Cost Sharing Allocation Source Data

Cost sharing allocations are based on an initial Cost Share Agreement[25] as approved by stakeholders. Other allocations methods are currently under consideration.

Figure C-1 shows the assumptions underlying the Cost Share Agreement and the calculation of the $18/month fee based on projected FY2010 costs of $2,369,830 and a subscriber base of 11,026 as of August 2008.

[25] Attachment B, Reference B.1.11, Alaska Land Mobile Radio (ALMR) Cost Share Update briefing, August 21, 2008.

Attachment D

Separation Study Recommendations

The cost estimates for the Separate Systems alternative (EA Alternative 2) was provided in System Design & Implementation Document (SDID) for Alaska Land Mobile Radio (including Appendix A, Feasibility Analysis for DOD/SOA Separation) (FOUO),[26] also known as the Separation Study. It provided cost estimates for SOA, DOD, and local government separation alternatives (cost of non-DOD Federal to separate from ALMR was not estimated in the study). This attachment provides a brief summary of the Separation alternatives recommended by the Separation Study if separation became necessary and the associated capital investment and O&M costs. Only the recommended alternatives are extracted below.

D.1 Separation Study Recommendations

Section 9, Recommendations, of the Separation Study recommended the following alternatives for separate system operations (EA Alternative 2). Other alternatives were studied; these were selected.

"9. Recommendations

"Under the decision model of this document there are two primary recommendation categories: the SOA recommendation and the DOD recommendation. These will be presented separately

"9.1 SOA

"SOA alternative 1 received a weighted score of 47, while SOA alternative 2 received a weighted score of 55. Alternative 1 has a red flag by having the likely inability to obtain sufficient frequencies after an ALMR separation to operate a statewide VHF conventional system. Therefore, alternative 2 (statewide 700 MHz system) is the recommended alternative for SOA.

"9.2 DOD

"There was a clear distinction between these two alternatives. Alternative 2 (Installation only trunking system) had the highest impact on DOD operations, having the highest channel efficiency, for the lower cost. It received a weighted score of 76. DOD alternative 2 received only a score of 46, due to the high marginal cost of serving a limited number of users on an extended VHF conventional system. Although it serves a wider service area, the much higher site acquisition, equipment, and operational costs of a supplementary statewide VHF conventional roadway system are not justified by the limited number of users served. Therefore, DOD alternative 2 is recommended.

---

[26] Attachment B, Reference B.1.4, System Design & Implementation Document (SDID) for Alaska Land Mobile Radio (including Appendix A, Feasibility Analysis for DOD/SOA Separation) (FOUO), AKA Separation Study, Motorola, Inc., July 1, 2008. For this analysis, some of the subscriber maintenance costs were excluded from Alternative 2 for consistency with the cost elements in Attachment 1.

"9.3 Local Government

"Local Government Alternative 2 is recommended, but is contingent on the State's selection of SOA alternative 2. In keeping with SOA Alternative 2, this alternative allows Local Government users across the state to partner with the state government for use of the statewide 700 MHz trunked system. Although the replacement of subscriber equipment makes this a more costly option than Alternative 1, this alternative makes the most effective use of limited fixed site resources and allows sharing of fixed sites between state and local agencies. Both State and local governments are eligible to use the 700 MHz frequency band, so this alternative offers direct Level 6 interoperability. Ultimately, the decision will be based on the selection of the SOA alternative.

"9.4 Federal non-DOD Agencies

"Since the volume of non-DOD federal users are relatively low and their scope of operation is generally localized, and given that DOD alternative 1 has not been selected, Alternative 1 for non-DOD federal users is recommended. This would permit these federal agencies to revert to their pre-ALMR legacy radio systems. Interoperability with other systems would permit wide-area and cross-agency operations when needed."

D.2 Separation Study Cost Estimate

Costs reported in the Separation Study are assumed to be State FY2009 dollars.

D.2.1 SOA Cost Estimate for EA Separation Alternative

The detailed cost tables of the Separation Study were reported in sections 7.1.2.8 and 7.1.2.9 for SOA.[27]

"7.1.2.8 SOA Alternative 2 Cost Estimate

"Table 6 and 6A [revised] provides a rough estimate of the costs associated with implementing SOA Alternative 2.

SOA Separation Alternative 2					
Cost Breakdown					
State Costs	Qty	Price	Equipment Cost	SI Costs	TOTAL
Install 700 MHz trunking repeaters	352	$25,000	$8,800,000	$2,904,000	$11,704,000
Reconfigure Tudor Road Master Site	1	$750,000	$750,000	$247,500	$997,500
Build 15 new RF sites	15	$950,000	$14,250,000	$4,702,500	$18,952,500
New UHF subscribers	4,612	$3,500	$16,142,000	$5,326,860	$21,468,860
Console reconfiguration	9	$50,000	$450,000	$148,500	$598,500
Interoperability equipment	88	$35,000	$3,080,000	$1,016,400	$4,096,400
Existing Site Modifications	73	$150,000	$10,950,000	$3,613,500	$14,563,500
Total SOA			$54,422,000	$17,959,260	$72,381,260

[27] "SOA 2 O&M" table excludes Console Ops and Subscribers from the original table and recomputes subtotals and total.

SOA 2 O&M			
Item Description	**Qty**	**Price**	**Cost**
Services			
System Technologists	1	$275,940	$275,940
Security Monitoring	1	$275,688	$275,688
Network Monitoring SOA	1	$633,996	$633,996
SATS upgrade	53	$15,000	$795,000
Travel Costs	88	$5,000	$440,000
Subtotal			$2,420,624
Maintenance			
Tudor Road master Site	1	$144,204	$144,204
RF Sites	88	$35,000	$3,080,000
Motobridge	88	$1,200	$105,600
NM Clients	2	$700	$1,400
Console Ops	N/A	N/A	N/A
Subscribers	N/A	N/A	N/A
Subtotal			$3,331,204
Total			$5,751,828

"***Table 6 SOA Alternative 2 Rough Order of Magnitude Cost Estimates***

"7.1.2.9 SOA Alternative 2 Summary

"Table 7 provides a summary of significant figures for Alternative 2

SOA Alternative 2 Summary	TOTAL
Number of Sites	88
Number of Channels	352
Channels per site	4
Number of Subscribers	4,612
Users per channel with re-use	17
Operating Mode	Trunked
Master Site	Tudor
Capital Cost	$72,381,260
Annual O&M Cost	$6,069,384

"***Table 7 SOA Alternative 2 Summary***"

D.2.2 DOD Cost Estimate for EA Separation Alternative

The DOD cost estimate is in section 7.2.2.8 and 7.2.2.9.[28]

"7.2.1.8 DOD Alternative 2 Cost Estimate

"Table 10 and 10A [revised] provide a rough estimate of the capital and O&M costs associated with implementing Alternative 2 for DOD

[28] "DOD Separation Alternative 2" table recalculates total cost from which the original table omitted "Install UHF Trunking Repeaters".

DOD Separation Alternative 2			Capital Cost		
DOD Costs	Qty	Price	Equipment Cost	SI Costs	Total
Install UHF Trunking Repeaters	54	$25,000	$1,350,000	$445,500	$1,795,500
Reconfigure Birch Hill Master Site	1	$750,000	$750,000	$247,500	$997,500
RF Site Modifications	10	$150,000	$1,500,000	$495,000	$1,995,000
New UHF subscribers	6,674	$3,500	$23,359,000	$7,708,470	$31,067,470
Interoperability equipment	10	$35,000	$350,000	$115,500	$465,500
Total SOA			$27,309,000	$9,011,970	$36,320,970

DOD 2 O&M			
Item Description	Qty	Price	Cost
Services			
System Technologists	1	$275,940	$275,940
Security Monitoring	1	$275,688	$275,688
Network Monitoring DOD	1	$1,726,368	$1,726,368
Leased T1 Lines	5	$15,000	$75,000
Travel Costs	8	$5,000	$40,000
Subtotal			$2,392,996
Maintenance			
Birch Hill Master Site	1	$47,508	$47,508
RF Sites	8	$30,000	$240,000
MW Hops	8	67,200	$537,600
Logging Recorders	4	27,000	$108,000
Motobridge	53	$1,200	$63,600
KMF	N/A	N/A	N/A
NM Clients	4	$700	$2,800
Console Ops	N/A	N/A	N/A
Subscribers	N/A	N/A	N/A
Subtotal	-		$999,508
Total			$3,392,504

"***Table 10 DOD Alternative 2 Cost Estimates***

"7.2.2.9 DOD Alternative 2 Summary

"Table 11 provides a summary of significant figures for DOD Alternative 2

DOD Alternative 2 Summary	Total
Number of Sites	10
Number of Channels	54
Channels per site	3-10 trunked
Number of Subscribers	6,674
Users per voice channel with re-use	151 trunked
Operating Mode	Trunked
Master Site	Birch Hill
Capital Cost	$34,525,470
Annual O&M Cost	$4,024,040[29]

[29] Corrected calculation of Capital Cost to $36,320,970.

"***Table 9 DOD Alternative 1 Summary***"

D.2.3 Local Government Cost Estimate for EA Separation Alternative

Local Government cost estimate is in section 7.3.2.8 of the Separation Study.[30]

"7.3.2.8 Local Government Alternative 2 Summary

"This alternative provides many benefits to local government agencies, including enhanced coverage, improved interoperability, and the full complement of public safety trunking features. However, the additional cost of new subscriber equipment and possibly new dispatch equipment may preclude some cash-strapped local governments from participating unless state or federal grant assistance is provided.

"The following table provides a rough cost estimate all 33 local government agencies that currently participate in the ALMR trunking system and would potentially participate in a separate SOA system. Individual municipality cost estimates may be derived by substituting the appropriate figures into Table 13 below. As in Local Government Alternative 1, the largest share of costs is for replacement of existing subscriber equipment. The primary difference in cost between this alternative and Alternative 1 is the elimination of the requirement to purchased fixed repeater equipment, since this will be provided by the State.

Separation Alternative 2 Local Government						
Cost Estimate						
Costs	**Qty**	**Price**	**Equipment Cost**	**SI Costs**	**Capital Costs**	**O&M**
New 700 MHz subscribers	**1,938**	**$3,500**	**$6,783,000**	**$2,238,390**	**$9,021,390**	**N/A**
New Dispatch Equipment	**33**	**$25,000**	**$825,000**	**$272,250**	**$1,097,250**	**$82,500**
Interoperability Gateway Equipment	**33**	**$20,000**	**$660,000**	**$217,800**	**$877,800**	**$66,000**
FCC Licensing Services	**33**	**$10,000**	**$330,000**	**$0**	**$330,000**	**$0**
Total SOA			**$8,598,000**	**$2,728,440**	**$11,326,440**	**$148,500**

"***Table 13 – Local Government Alternative 2 Rough Cost Estimate***"

D.2.4 Federal (Non-DOD) Cost Estimate for EA Separation Alternative

No Federal (Non-DOD) cost estimate is provided in the Separation Study.

D.3 Separation Alternative Cost Estimate

Based on these extracts from the Separation Study, cost estimates for the Separate Systems alternative (EA Alternative 2) included costs of equipment and services that are outside the scope of this analysis. Since these costs are to be compared to the ALMR Cooperative Partnership alternative, and those cost estimates do not include owner maintenance of radio equipment, it is necessary to either add those costs to the ALMR Cooperative Partnership costs or remove them from the Separation Study. Electing to do the later, to make a comparable comparison, it is necessary to reduce the O&M cost by the amount reported for Subscriber

[30] "Separation Alternative 2 Local Government" table excludes "New 700 MHz subscribers" from the original table and recomputes O&M Total.

Maintenance. Table D-1 shows the resultant EA Separation Alternative Costs Less Subscriber O&M.[31]

Table D-1. EA Separation Alternative Costs Less Subscriber O&M (State FY10$M)

EA Separation Alternative	Capital Cost	Annual O&M Cost
SOA	72.381	6.082
DOD	36.321	3.587
Local Governments	11.326	0.157
Non-DOD Federal	N/A	N/A

Therefore, combining the capital costs and annual O&M costs inflated at 2.83% per year for a 15-year period, produces the life cycle cost estimate in Table D-2.

Table D-2. EA Separation Alternative Life Cycle Cost Estimate Details

Fiscal Year	DoD	SOA	Local	Then-Year $ Total
2009	$36,320,970	$72,381,260	$11,326,440	$120,028,670
2010	$3,587,237	$6,081,988	$157,024	$9,826,249
2011	$3,688,756	$6,254,108	$161,468	$10,104,332
2012	$3,793,147	$6,431,100	$166,037	$10,390,284
2013	$3,900,493	$6,613,100	$170,736	$10,684,329
2014	$4,010,877	$6,800,250	$175,568	$10,986,696
2015	$4,124,385	$6,992,697	$180,537	$11,297,619
2016	$4,241,105	$7,190,591	$185,646	$11,617,342
2017	$4,361,129	$7,394,085	$190,900	$11,946,113
2018	$4,484,549	$7,603,337	$196,302	$12,284,188
2019	$4,611,461	$7,818,512	$201,857	$12,631,830
2020	$4,741,966	$8,039,775	$207,570	$12,989,311
2021	$4,876,163	$8,267,301	$213,444	$13,356,909
2022	$5,014,159	$8,501,266	$219,485	$13,734,909
2023	$5,156,059	$8,741,852	$225,696	$14,123,607
2024	$5,301,976	$8,989,246	$232,083	$14,523,305
2025	$5,452,022	$9,243,642	$238,651	$14,934,315
Total Costs	$107,666,453	$193,344,109	$14,449,444	$315,460,007

Table D-3 summarizes the Life Cycle Cost Estimate in a manner similar to Table C-1 for EA Alternative 1. Table D-3 (for EA Alternative 2) is combined with Table C-1 (for EA Alternative 1) in section 3.3 of the report.

Table D-3. EA Separation Alternative Life Cycle Cost Estimate Summary

Alternative	Life Cycle Cost Estimate FY2009-2025				
	Total	DOD	SOA	Local	Federal
Alternative 2 Separate Systems	$315.5	$107.7	$193.3	$14.5	N/A

[31] Non-DOD Federal Separation costs were not estimated; the value is less than 4% of total. Omitting these costs will show the Separation alternative as slightly underestimated for this reason.

Attachment E

Benchmarking Cost Tables

Previous attachments reported the costs associated with the alternatives analysis of the two ALMR alternatives. As a second consideration, this analysis summarizes a cost comparison of two other LMR systems from a companion study, ALMR Independent Validation of Cost Reasonableness,[32] to benchmark the costs of ALMR.

Cost data were collected from existing government documents and from interviews with program managers of other LMR systems.

Table E-1 shows the compilation of shared and service-centric infrastructure costs for three LMR systems analyzed for this EA. Cost of stakeholder maintenance for owned equipment is excluded (e.g., repair cost of radios). Two sets of results for each system are shown in the next two tables. Since shared infrastructure maintenance is handled differently in different LMR systems, Table E-1 shows the components of the cost build-up and includes a subtotal for "without shared infrastructure maintenance" for computations to follow.

Table E-1. LMR Benchmark Cost Comparison

	Annual Cost (FY09$)		
Cost Element	ALMR	Ft. Lewis LMR	PLMR
OMO Contract	$634,042		$855,000
SMO Contract	$1,352,422		
OMO/SMO Organic		$175,968	$124,855
Annual SW Updates		$60,000	
Circuits	$323,120	$11,400	$116,833
IA Certification			$27,500
Total Cost Without Maintenance	$2,309,584	$247,368	$1,124,188
Maintenance:			
Shared	$3,013,750	$314,000	$399,810
Service-Centric			$33,204
Total Cost With Maintenance	$5,323,334	$561,368	$1,557,202

Table E-2 shows the IVCR analysis of sites, channels and subscribers as the components that drive these recurring costs and then divided total costs, with and without maintenance, by the cost driver quantities to derive a comparison for each ratio. Table E-2 shows the cost performance ratio comparison for the three cost drivers, both with and without shared infrastructure maintenance. (All the cost data used in the IVCR were taken directly from the LMR Managers for each LMR system. Interview notes and data used to perform this analysis were further coordinated with each respective LMR Manager.)

[32] Attachment B, Reference B.2.1, Alaska Land Mobile Radio Independent Validation for Cost Reasonableness, Final Report, Tecolote Research, Inc., 25 February 2009.

Table E-2. LMR Benchmark Cost Performance Ratio Comparison per Cost Driver Unit

Without Maintenance	ALMR	Ft. Lewis	PLMR
Per Site	$27,172	$30,921	$124,910
Per Channel	$6,505	$4,193	$14,052
Per Subscriber	$191	$49	$253
With Maintenance	**ALMR**	**Ft. Lewis**	**PLMR**
Per Site	$62,627	$70,171	$173,022
Per Channel	$14,995	$9,515	$19,465
Per Subscriber	$440	$112	$350

The cost data above excludes Ft. Lewis labor costs for services performed outside the LMR Management office by other entities. The cost data for these services were not identified to incorporate into the IVCR. Costs for these same services are included in ALMR and PLMR. This means overall Ft. Lewis costs are understated by an unknown amount related to these services.

The IVCR concluded that robustness of the system, the services provided, and the cost performance ratios validate that ALMR costs are reasonable.

Attachment F

ALMR Users

Table F-1 lists the user organizations of ALMR.[33]

Table F-1. ALMR Users

Current Users on the Alaska Land Mobile Radio (ALMR) Communications System	
Alaska Defense Force (49th Military Police Brigade)	Kulis Air National Guard Base
Alaska State Troopers	Mat-Su Borough
Alcohol, Tobacco, and Firearms (ATF)	Mat-Su Regional Medical Center
Anderson VFD & EMS	McKinley VFD
Bear Creek Fire Service Area	Moose Pass Fire EMS
BLM/Alaska Fire Service	National Oceanographic and Atmospheric Administration (NOAA) Fisheries Enforcement
Cantwell VFD National	National Park Service-Alaska Region
Chena GoldStream FD	Natural Resources, Dept of (Division of Forestry)
Civil Air Patrol, Alaska Wing	North Pole PD
Clear Air Station	Palmer City PD
Cooper Landing Emergency Services	Providence Seward Medical & Care Center
Customs & Border Protection	Rural Deltana VFD
Delta Junction VFD	Salcha Rescue
Delta Rescue Squad	City of Seward
Drug Enforcement Agency (DEA)	Seward Volunteer Ambulance Corps
Eielson Air Force Base	Soldotna PD
Elmendorf Air Force Base	Steese VFD
Environmental Conservation, Dept of (DEC)	Tok Area Emergency Medical Services
Ester VFD	Transportation & Public Facilities, Dept of Transportation (DOT)
Fairbanks City (includes Fairbanks PD and FD)	Tri-Valley VFD
Fairbanks North Star Borough	University of Alaska-Fairbanks PD
FBI Anchorage	US Army Alaska
Federal Protective Service (Immigration & Customs Reinforcement (ICE) (DHS))	US Fish & Wildlife Service
Homer PD	US Forest Service - Law Enforcement & Investigations (Agriculture)
Hope/Sunrise EMS & Fire Department	US Marshals Service
Houston FD	Valdez FD
Houston PD	Valdez PD
Internal Revenue service (IRS)	Wasilla PD
Kenai PD	

[33] Attachment B, Reference B.1.15, Agencies on ALMR System, ALMR Web Site, undated.

Attachment G

ALMR Stakeholder Survey Template

The Survey provided to each stakeholder is a 20-page document with 99 questions consisting generally of a checkbox response along with a textbox for substantiation or comment. A number of the questions had only the textbox for substantiation or comment. The first page of the Survey was used in face-to-face interviews.

A cover letter, included below, introduced the survey.

Table G-1 shows the stakeholder organizations that were surveyed. Survey results are in Attachment H, Attachment I, and Attachment J.

Table G-1. Stakeholder Organizations Surveyed

Ref #	Category	Stakeholder
1	State	Alaska Dept of Transportation/Public Facilities (DOT/PF)
2	State	Alaska State Troopers
3	State	Alaska Dept of Public Safety (DPS)
4	Non-DOD	Transportation Security Administration (TSA)
5	Locality	Municipality of Anchorage (MOA)
6	DOD	USARAK
7	DOD	Eielson AFB, AK
8	Locality	Fairbanks Police Department
9	Locality	Fairbanks Fire Department
10	Locality	North Star Fire Service Area
11	Locality	Fairbanks North Star Borough
12	Non-DOD	Drug Enforcement Agency (DEA)
13	DOD	ALCOM
14	State	Alaska Dept of Administration (DOA)
15	Non-DOD	Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF)
16	DOD	Elmendorf AFB, AK

Attachment H documents the comments of the face-to-face interviews.

Attachment I consolidates the organizational responses returned by the stakeholders for the Survey.

Attachment J synthesizes by question the stakeholder individual responses for the Survey.

TECOLOTE RESEARCH, INC.

COLORADO SPRINGS OPERATIONS

985 Space Center Drive, Suite 305 • Colorado Springs, CO 80915 • Phone (719) 574-6070 • Fax (719) 574-6379

Dear ALMR Stakeholder,

The Alaska Land Mobile Radio (ALMR) partnership has engaged Tecolote Research, Inc. to perform an Economic Analysis (EA) of the ALMR enterprise. We are soliciting your participation in a survey to support this effort.

Our work statement calls for the EA to examine two ALMR alternatives: keeping the cooperative intact or dividing it into separate entities. These alternatives will consider stakeholders' cost effectiveness, communications interoperability, and other factors in satisfying land mobile radio requirements. This non-advocate analysis will compare the benefits and disadvantages, cost and non-cost factors, both tangible and intangible, of these two alternatives. This analysis will include positive and negative aspects of both alternatives from each major stakeholder's perspective. This will require solicitation and responses of your top 3-5 leadership concerns/issues associated with maintaining the existing joint ALMR system versus creation of a separate system to meet your needs.

We have developed an executive-level set of summary questions prefacing a detailed survey (attached) to support this effort. Please take time to review both documents to identify a response that accurately depicts the interests/position of your organization. During a face-to-face interview the week of 13 October 2008, we would like to discuss the interview questions on the first page and your concerns/issues with the system with you and your staff. We would also appreciate your written response to the survey questions by 1 November. If they have not already done so, the ALMR Operations Management office will be contacting you about specifics. If you have any questions, please call them at 269-8408.

In addition, once Tecolote receives and analyzes your response along with those of other stakeholders, we may wish to contact you via email or phone if we have any follow-up questions. We appreciate your participation and support.

Gerald W. Corwin
ALMR Economic Analysis Task Manager

1 Attachment
ALMR Stakeholder Survey

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Alaska Land Mobile Radio (ALMR) Stakeholder Survey

We are conducting an Economic Analysis (EA) of ALMR, comparing the cost and benefits of the ALMR Cooperative (as it is) with an alternative that separates the radio systems by governmental entity. Each alternative may raise concerns and bring benefits and disadvantages that will be addressed and responded to in the EA.

Stakeholder Survey. The summary questions below are outlined in more detail on the following pages. The survey should be previewed for the interview, but the completed survey is not needed until after the interview. The perspective should be based on your organizational perspective and associated responsibilities.

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

b. Narrowband Mandates?

c. Interoperability?
   - Governance
   - SOPs
   - Technology
   - Training and Exercises
   - Level of Usage
   - Maturity

d. Governance?
   - User Council Charter
   - Membership Agreement
   - Service Level Agreement
   - Customer Support Plans
   - Separation Study

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

h. In summary, what do you see as your top 3-5 concerns/issues?

1 of 20

ALMR Stakeholder Survey

Detail Questions to Support Face-to-Face Interviews. We are conducting an Economic Analysis (EA) of ALMR, which compares the cost and benefits of the ALMR Cooperative (as it is) with an alternative that separates the radio systems by governmental entity. Each alternative may raise concerns and bring benefits and disadvantages that will be addressed and responded to in the EA. Answers provided should be from your organizational perspective and associated responsibilities. All documents referenced in this survey can be found at www.ak-prepared.com/almr/ea.htm.

To facilitate creation of a database, please complete the form electronically; you may click checkboxes to select an answer and double-click inside the text box to enter narrative answers. Each question is numbered and ends with a text box for comments. (Click anywhere in front of question to enter the next control box, tab to next control box, and use spacebar to toggle checkbox answers.) Please substantiate your response to all questions using the text boxes. The face-to-face interview will request summary comments on each titled section and note your key issues and suggestions. **(If necessary, you may remove the Form control using the Forms toolbar by unclicking the lock icon, but it must be locked for data entry to work correctly.)**

Agency Information:

Agency Stakeholder: [DoubleClickHere]

Agency Address: [DoubleClickHere]

Agency Interviewee: [DoubleClickHere]

Agency POC Name/Phone/Email: [DoubleClickHere]

Date Completed: [DoubleClickHere]

Part I. General and Strategic

A. Compliance

Background. The ALMR Cooperative strives to remain in compliance with national policy documents such as the National Response Framework, the SAFECOM Continuum for Interoperability and Homeland Security Presidential Directives 5 and 8. These documents strongly encourage participation in the National Incident Management System (NIMS) and the daily use of standards-based, shared systems throughout government agencies. These systems are to be operated under a governance approach that is regional or statewide, applies the NIMS through integrated standard operating procedures and protocols, and conducts regular comprehensive region-wide training and exercises. Based on your understanding of these documents:

1. Is the ALMR Cooperative in compliance with these policies, goals and objectives?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

2. How does ALMR compliance with these policies, goals and objectives meet you agency's operational requirements?

☐ Meets ☐ Exceeds ☐ Does Not Meet

Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

3. If your agency is eligible to receive federal grants from the Department of Homeland Security, on a scale of 1 (being lowest) to 5 (being highest) has compliance with these policies, goals and objectives improved your ability to receive federal funds?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Not Eligible

Substantiate/Comment: [DoubleClickHere]

4. To date, there has not been a manmade or natural disaster of significance that would ultimately demonstrate if compliance with the national policies, goals and objectives by the ALMR approach effectively increases safety and security for response agencies and also provides the appropriate level of interoperability between government agencies. However, on a scale of 1 (being lowest) to 5 (being highest), from your understanding and experience with ALMR how well were the above elements met and the cost of required compliance warranted?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Substantiate/Comment: [DoubleClickHere]

5. As a major stakeholder in ALMR, based upon your understanding of the national policies, goals and objectives, would it be better operationally for the federal, state and local government agencies (ALMR stakeholders) to operate separate independent land mobile radio (LMR) systems?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

6. If your answer to question 5 is Yes, is this position based on:

☐ Operations only ☐ Cost only ☐ Both operations and cost ☐ N/A

Substantiate/Comment: [DoubleClickHere]

7. Based on your understanding of the national policies, goals and objectives discussed above, do you agree that government agencies (ALMR stakeholders) incur increased costs for compliance with the national policies, goals and objectives for preparedness and the ability to interoperate between government agencies?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

8. Do you agree that these costs are warranted and should be considered as an inherent requirement for government agencies and part of the cost of daily operations?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

9. What is the overall economic impact to your organization resulting from compliance with these policies, goals and objectives?

Substantiate/Comment: [DoubleClickHere]

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ALMR Stakeholder Survey (continued)

B. Narrowband Mandates

Background. A major driver for the capital investment in the replacement of legacy land mobile radio (LMR) equipment by the ALMR stakeholders was/is the narrowband mandates. The National Telecommunications and Information Administration Federal Narrowband Mandate required transition from wideband to narrowband LMR channels by all federal government agencies by January 1, 2008. The Federal Communications Commission Narrowband Mandate requires transition by January 1, 2013 for all state and local government LMR operations. Based on your understanding of the Narrowband Mandate:

10. **On a scale of 1 (being lowest) to 5 (being highest), is the ALMR Cooperative currently in compliance with this mandate?**

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Substantiate/Comment: [DoubleClickHere]

11. **How does ALMR compliance with this mandate meet your operational requirements?**

☐ **Meets** ☐ **Exceeds** ☐ **Does Not Meet**

Substantiate/Comment: [DoubleClickHere]

12. **Considering the applicable narrowband mandate, and the economic impact of making the required transition, did national policies, goals and objectives for preparedness and interoperability influence your decision to participate in the ALMR shared system as opposed to replacing your legacy system with an independent narrowband-compliant LMR system?**

☐ **Yes** ☐ **No**

Substantiate/Comment: [DoubleClickHere]

13. **As an alternative, would moving from the shared ALMR System to an independent operation at this point by your agency have any impact on your agency's compliance with the applicable narrowband mandate?**

☐ **Yes** ☐ **No**

Substantiate/Comment: [DoubleClickHere]

14. **What has been/is the overall economic impact to your organization resulting from compliance with this mandate?**

Substantiate/Comment: [DoubleClickHere]

C. Interoperability Maturity

The SAFECOM Interoperability Continuum defines levels of interoperability maturity across five categories (governance, standard operating procedures, technology, training and exercises, and usage). Achieving these levels has an inherent economic impact for government agencies.

ALMR Stakeholder Survey (continued)

(C1) Governance

Background. The SAFECOM Interoperability Continuum defines the most mature level of governance as "Regional Committee Working within a Statewide Communications Interoperability Plan Framework." ALMR operates under the guidance of the ALMR Executive Council (EC), with executive-level appointed members from federal, state and local government. The ALMR EC also serves as the Statewide Interoperability Executive Committee (SIEC) providing oversight of public safety spectrum and interoperability protocols. Based on your understanding of the Continuum and the FCC requirement for SIECs:

15. Do you agree that the ALMR Cooperative is operating a governance structure at the highest level of governance defined on the SAFECOM Interoperability Continuum? If not, please describe at what continuum level you place the ALMR EC.

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

16. Does the ALMR governance model provide the required level of representation for your agency?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

17. If ALMR was not operated as a single shared system infrastructure between federal, state and local agencies, would the need for an EC/SIEC or other like governance structure be required?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

18. Is the cost and function of operating an EC/SIEC necessary to the overall success of the ALMR approach?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

19. Should this cost and function be considered a continuing inherent fundamental duty of government to facilitate preparedness and interoperability among government agencies?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

20. What is the overall economic impact to your organization resulting from achieving and sustaining this level of governance?

Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

(C2) Standard Operating Procedures

Background. The SAFECOM Interoperability Continuum requires the development and implementation of National Incident Management System (NIMS) Standard Operating Procedures (SOPs) and protocols for conducting incident command and interoperable communications capabilities. The ALMR System employs robust statewide, regional and local Incident Command integrated SOPs and protocols that are programmed into applicable response agency radios. ALMR has developed and implemented Tactical Interoperable Communications Plans (TICPs) and SOPs that standardize processes and procedures for interoperable communications at the local, regional and statewide levels between ALMR stakeholders and agencies that these stakeholders most communicate with. Based on your understanding of the SAFECOM Interoperability Continuum and the need for SOPs:

21. Do you agree that the ALMR Cooperative is operating at the most mature level on the continuum with relation to initiation and use of SOPs?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

22. How does this level of NIMS integration into the SOPs meet your operational requirements?

☐ Meets ☐ Exceeds ☐ Does Not Meet

Substantiate/Comment: [DoubleClickHere]

23. To date, there have been no manmade or natural disasters of significance that would ultimately demonstrate if the development and execution of these SOPs by the ALMR approach effectively increases safety and security for response agencies and also facilitates a high level of communications interoperability between government agencies. However, would you say that from your understanding and experience with ALMR, the above elements have been met and the cost of implementing and maintaining these NIMS-integrated SOPs is required and warranted?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

24. Should this cost and function be considered a continuingly inherent fundamental duty of government to facilitate preparedness and interoperability among government agencies?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

25. Considering the alternative of operating independent government LMR systems, is the requirement warranted for developing and maintaining NIMS-integrated SOPs to preserve the safety and security of responders and facilitate procedures and protocols for interoperable communications between government agencies during a response?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

26. If your answer to question 25 is Yes, would this have a continuing economic impact on your organization?

☐ Yes ☐ No ☐ N/A

Substantiate/Comment: [DoubleClickHere]

27. Prior to ALMR and the governance it established, were there NIMS-integrated SOPs, TICPs and protocols established?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

28. Since the implementation of ALMR and the governance it established, the capability to establish and sustain communications interoperability among government agencies (federal, state and local), and also between government agencies and non-government agencies (civil, industry and volunteer) has:

☐ Decreased ☐ Remained the same ☐ Increased ☐ Increased significantly

Substantiate/Comment: [DoubleClickHere]

29. What is the overall economic impact to your organization resulting from achieving and maintaining this level of NIMS integration into SOPs for communications interoperability between government agencies?

Substantiate/Comment: [DoubleClickHere]

(C3) Technology

Background. The SAFECOM Interoperability Continuum defines the most mature level of interoperable communications as a standards-based, shared system. Further, Department of Defense (DoD) policy executed in August 2001 mandated DoD agencies procure and operate only LMR systems that were Association of Public Safety Communications Officials (APCO) Project 25 (P25) and Telecommunications Industry Association (TIA) Standards-compliant. This standard is now mandated for all federal government agencies. Subsequently, Congress and the Department of Homeland Security have made procurement of P25/TIA102A standards-based LMR equipment mandatory in order for agencies to receive grant funding to procure LMR equipment. ALMR has implemented an APCO P25/TIA 102A standards-based technology.

ALMR employs technology solutions required to ensure and sustain interoperability between government agencies and, further, between government agencies and non-governmental response agencies on demand, secure and in real time. This solution includes fixed infrastructure along most of the major highways and populated areas and on military installations, the capability to communicate within operators of critical infrastructure, and the ability to communicate with non-governmental agencies on disparate radio systems. It also includes a transportable system, which provides the capability to insure channel capacity can be increased during emergencies, to fill in for damaged or lost critical fixed infrastructure, and also to provide interoperable communications and reach back from remote areas outside the ALMR coverage area. The ALMR System was implemented and is operated and maintained at the highest level for technology defined as a "Standards-Based Shared System." Based on your understanding of the Continuum:

ALMR Stakeholder Survey (continued)

30. Do you agree that the ALMR Cooperative is at the highest level of technology on the continuum?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

31. ALMR stakeholders are provided with a robust level of solutions-based technology with the goal of providing on-demand, in-real-time, secure interoperable communications for response agencies while also providing a day-to-day communications capability for all government agencies. Based on the national policies, goals and objectives, the SAFECOM Interoperability Continuum and your known requirements, is this the correct level of commitment and investment in a technical solution for your agency? For the stakeholders combined? (Your agency/stakeholders combined)

☐ Yes/Yes ☐ Yes/No ☐ No/Yes ☐ No/No

Substantiate/Comment: [DoubleClickHere]

32. Based on the known capability and robustness of the ALMR shared system, do you believe your agency could obtain the same level of interoperability if all ALMR stakeholders employed independent government LMR systems?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

33. Based on the known capability and robustness of the ALMR shared system made possible by the shared approach, could your agency implement an independent and equivalent capability for the same or less capital investment?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

34. Should the cost of obtaining, operating and maintaining technology solutions that comply with national policy, goals and objectives be an inherent governmental duty and responsibility, and considered as part of their day-to-day operational requirements for communications?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

35. Based upon your answer to questions 32 and 33, what would be the operational and economic impact on your agency, and all stakeholders combined, to implement independent government LMR systems?

Substantiate/Comment: [DoubleClickHere]

(C4) Training and Exercises

Background. The SAFECOM Interoperability Continuum defines the highest level of training and exercises as "regular comprehensive region-wide training and exercises. ALMR stakeholders receive regular training and are engaged in regular comprehensive local, regional and statewide training and exercises sponsored by ALMR stakeholder funding and other state and federal government funding. As a

ALMR Stakeholder Survey (continued)

result, the ALMR stakeholder community, facilitated by ALMR Operations Management Office (OMO), is positioned at the highest level for training and exercises defined by SAFECOM. Based on your understanding of the continuum:

36. Do you agree that the ALMR Cooperative is at the highest level of training and exercises on the continuum?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

37. How does this level of training and exercises meet your operational requirements?

☐ Meets ☐ Exceeds ☐ Does Not Meet

Substantiate/Comment: [DoubleClickHere]

38. With regard to interoperable communications SOPs and protocols and prior to the establishment of the ALMR governance and establishment of an OMO, did the same level of robust, local, regional and statewide training and exercises exist?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

39. Has the ALMR shared system approach and the established governance contributed to enhanced training and exercises that increase your agency's ability to interoperate with other government agencies and non-governmental agencies?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

40. Has this resulted in an increase in training and exercise for your agency with regard to interoperable communications procedures and protocols, and has there been a direct economic impact as a result?

☐ Yes, increase in training and exercise ☐ No increase in training and exercises

There ☐ has / ☐ has not been a direct economic impact? (Check the appropriate response.)

Substantiate/Comment: [DoubleClickHere]

41. Considering the alternative of operating independent government LMR systems, should the level of training and exercise be increased, remain the same, or decreased to meet national policies, goals and objectives with regard to obtaining and sustaining interoperable communications during multi-jurisdictional, multi-agency mutual aid and incident response situations?

☐ Increased ☐ Remain the same ☐ Decreased

Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

42. Could the same level of training and exercise support and activities relating to interoperable communications provided by the ALMR governance though the OMO be provided independently, and could it be provided for a lesser, same, or a higher cost?

☐ Yes, for: ☐ Less Cost ☐ Same Cost ☐ Higher Cost
☐ No, for: ☐ Less Cost ☐ Same Cost ☐ Higher Cost

Substantiate/Comment: [DoubleClickHere]

For the next three questions, ALMR stakeholders, through the OMO, have engaged in proactive deliberative planning and training to ensure ALMR users can effectively communicate and interoperate during exercises and real-world events. This deliberative planning and training activity was handled as a project cost for transition from implementation to operation.

43. Is their a bona fide requirement to sustain proactive deliberative planning preparation and training to support exercise and real-world events?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

44. If your answer to question 43 is Yes, should this be a shared cost of all stakeholders and administered through the OMO?

☐ Yes ☐ No ☐ N/A

Substantiate/Comment: [DoubleClickHere]

45. What is the economic and operational impact of continuing and/or eliminating this activity?

☐ Continue ☐ Eliminate (Substantiate economic and operational impact.)

Substantiate/Comment: [DoubleClickHere]

46. Is the cost of participating and engaging in training and exercises an inherent governmental duty, and should this cost be considered as part of the day-to-day operational cost of communications for your agency?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

47. What is the overall economic impact to your organization resulting from regular training and statewide exercises?

Substantiate/Comment: [DoubleClickHere]

(C5) Usage

Background. The SAFECOM Interoperability Continuum and the national framework for communications interoperability establishes that to promote the most robust communications interoperability, government agencies should use the communications assets that they operate and train with daily to also meet government agency emergency response communications needs. This approach, along with SOPs and communications protocols, is said to provide a higher level of preparedness and

ALMR Stakeholder Survey (continued)

confidence by response personnel. The ALMR System is at the highest level of usage defined as "daily use throughout the region." Based on your understanding of the continuum:

48. Do you agree that the ALMR Cooperative is at the highest level of usage on the continuum?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

49. Does this level of usage meet your operational day-to-day requirements?

☐ Meets ☐ Exceeds ☐ Does Not Meet

Substantiate/Comment: [DoubleClickHere]

50. Does this level of usage meet your emergency response, tactical and or incident command communications interoperability requirements?

☐ Meets ☐ Exceeds ☐ Does Not Meet

Substantiate/Comment: [DoubleClickHere]

51. Is the added cost of Public Safety standards-compliant subscriber equipment operating on a standards-based, shared system infrastructure used by all government agencies on a daily basis warranted?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

52. Should government agencies that have the mission to provide emergency response or support, , in addition to their day-to-day mission responsibilities, have an inherent responsibility to procure and operate radio communications assets that are Public Safety standards based and operate on standards-based communications infrastructures?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

53. Considering the alternative of operating non-standard, independent government LMR systems, could the same level of preparedness be sustained?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

54. If your answer to question 53 is Yes, would the cost be less, equal or more?

☐ Less ☐ Equal ☐ More ☐ N/A

Substantiate/Comment: [DoubleClickHere]

55. What is the overall economic impact to your organization resulting from compliance with this daily-use level?

Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

D. Interoperability Maturity

Background. The National Emergency Communications Plan (NECP) defines three major interoperability goals to be achieved through seven categories of initiatives by 2013.

Goal 1: By 2010 90% of high-risk, urban areas are able to demonstrate response level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.

Goal 2: By 2011, 75% of non high-risk, urban areas are able to demonstrate response level emergency communications within one hour for routine events involving multiple jurisdictions.

Goal 3: By 2013, 75% of all jurisdictions are able to demonstrate response-level emergency communications within three hours, in the event of a significant incident as outlined in national planning scenarios.

Many of these categories coincide with the SAFECOM Interoperability Continuum. Goals and objectives established by the ALMR stakeholders resulted in the design and implementation of a standards-based, shared system that provides on-demand, in-real-time, secure interoperable communications for multi agency, multi-jurisdictional, local, regional and statewide emergency communications at the tactical responder levels (incident command and on-scene levels).
Based on your understanding of the NECP:

56. Is the ALMR Cooperative in compliance with the NECP goals?
☐ Yes ☐ No
Substantiate/Comment: [DoubleClickHere]

57. How does ALMR compliance with the NECP meet your operational requirements with regard to providing interoperable communications?
☐ Meets ☐ Exceeds ☐ Does Not Meet
Substantiate/Comment: [DoubleClickHere]

58. Is the ability to establish and sustain interoperable communications within the timelines outlined for routine events involving multiple jurisdictions and agencies considered to be an inherent responsibility of government agencies?
☐ Yes ☐ No
Substantiate/Comment: [DoubleClickHere]

59. Considering the ALMR partnership approach to support response to events that are multi-jurisdictional and multi agency, would the operation of independent government LMR systems provide the appropriate technology solution to meet the NECP objectives?
☐ Yes ☐ No
Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

60. Considering question 59, would the procurement and operation of independent government LMR systems that are not designed and implemented to meet NECP communications interoperability goals provide less, equal or greater capability than the ALMR approach?

☐ Less ☐ Equal ☐ Greater

Substantiate/Comment: [DoubleClickHere]

61. Considering questions 58 and 59, would the operation of independent government LMR systems which are designed and implemented to meet the NECP communications interoperability goals cost less, equal to or more to procure, implement, operate and maintain?

☐ Less ☐ Equal ☐ More

Substantiate/Comment: [DoubleClickHere]

62. What is the overall economic impact to your organization resulting from compliance with the NECP?

Substantiate/Comment: [DoubleClickHere]

Part II. ALMR Governance

A. User Council Charter

Background. The ALMR governance model and Cooperative Agreement required the formation of a User Council (UC) and the creation of a UC Charter. The UC Charter specifies the makeup of the council and defines its role and responsibilities. The UC, through the OMO, administers and provides user-level oversight for the day-to-day operation and maintenance of the shared system infrastructure. They define, develop and implement SOPs and protocols that promote and ensure multi-jurisdictional, multi-agency communications interoperability. The UC establishes the service levels for maintenance and quality of service required to sustain the infrastructure to meet operation needs. They identify critical operational measures, and through the OMO, track associated trends, provide quality control and quality assurance to ensure the continued sustainment of the shared system to meet their collective needs Based on your understanding of the UC roles and charter:

63. As a stakeholder, is the need for a UC warranted and are the roles and responsibilities of the UC beneficial to your agency's use of, and participation in, ALMR?

☐ Warranted & Beneficial
☐ Warranted & Not Beneficial
☐ Not Warranted & Not Beneficial

Substantiate/Comment: [DoubleClickHere]

64. Has UC actions related to their responsibilities created an undue economic impact on your agency? If so, what specific actions have had this impact?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

65. If UC decisions have had direct economic impact on your agency, was that impact warranted, and could the resulting cost be justified and legally supported by an appropriation?

☐ Yes - Warranted; justified and legal
☐ Yes - Warranted; justified but not legal
☐ No impact

Substantiate/Comment: [DoubleClickHere]

66. Are there direct or indirect costs to your agency to provide representation to the UC? If so, is this cost warranted?

☐ Yes (direct costs)	☐ Warranted	☐ Not Warranted
☐ Yes (indirect costs)	☐ Warranted	☐ Not Warranted
☐ Yes (direct & indirect costs)	☐ Warranted	☐ Not Warranted

Substantiate/Comment: [DoubleClickHere]

67. Considering the roles and responsibilities of the UC with regard to the current ALMR approach, and the alternative of operating independent government LMR systems, would the same level of deliberative planning, dialog and interaction between government agencies related to interoperable communications occur?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

68. Considering the alternative of implementing and operating independent government LMR systems, would the establishment of a similar body be required to be compliant with the national goals and objectives related to interoperable communications between government agencies?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

69. What is the overall economic impact to your organization resulting from compliance with the UC Charter?

Substantiate/Comment: [DoubleClickHere]

B. Operations and Maintenance & Service Level Agreement

Background. As one of its first acts, the UC prepared a Service Level Agreement (SLA) which defines the shared infrastructure and the level/restoration of service needs and the quality of service (sustained level of communications at a defined quality level 99.999%) required to meet their collective needs. The collective needs, in some cases, exceed the individual needs of some agencies involved. The SLA serves to define the statement of work associated with the maintenance of the ALMR shared infrastructure. The SLA also formed the basis for the scope of work for the OMO and the System Management Office (SMO) contracts. Based on your understanding of the SLA:

ALMR Stakeholder Survey (continued)

70. How do the service/restoration levels and quality of service meet your agency's independent requirements for maintenance response, repair and restoration of services and for sustainment of the correct quality of service?

☐ Meets ☐ Exceeds ☐ Does Not Meet

Substantiate/Comment: [DoubleClickHere]

71. Based on your response to question 70, what has been the associated economic impact?

Substantiate/Comment: [DoubleClickHere]

72. Based upon the national goals and objectives to establish governance and implement, operate and maintain standards-based systems by government agencies, have you faced any legal impediment to being able to obtain appropriations to sustain maintenance, system management and operations management services based upon the SLA?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

73. Considering the alternative of implementing and operating independent government LMR systems that attempt to comply with the national goals and objectives, would there be a need for government agencies to establish other service level agreements, and possibly sustain their communication system at a higher service level or a higher quality of service than is currently required?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

74. Should government agencies consider the cost of maintaining service/restoration levels and quality of service levels at a level required to meet emergency response mission essential or mission critical support levels as an inherent responsibility, regardless of what their day-to-day service level and quality of service level requirements are?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

75. What is the overall economic impact to your organization resulting from compliance with the SLA?

Substantiate/Comment: [DoubleClickHere]

C. Operations and System Management Services

Background. The Cooperative Agreement established the need for outsourced maintenance, systems management and a neutral source representing the interests of all the stakeholders to operate and administer the ALMR shared system enterprise. System Management is a direct requirement of the standard-based shared technology. It is a necessary activity that cannot be eliminated. The OMO provides a neutral approach to ensuring operations are sustained for all stakeholders based upon a collective set of service levels and a defined quality of service. The OMO provides the day-to-day oversight and third party Quality Control and Quality Assurance of ALMR shared infrastructure operations. The award of these contracts complied with Federal Acquisition Regulations and

ALMR Stakeholder Survey (continued)

procurement regulations of the State of Alaska. Fees for services rendered have met the fair and reasonable test associated with contract award applicable under both federal and state contract award guidance. One of the first deliverables under these contracts was their respective Customer Support Plans (CSPs), which define the specific service levels and how they will be measured and accomplished. Based in your understanding of the OMO and SMO and their respective CSPs:

76. Are the shared system approach and the idea that a fair and equal provider of services (outsourced vs. stakeholder provided) is required to provide unbiased and balanced shared system management and operations management services, a valid requirement?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

77. How do the outsourced shared services for the SMO and OMO, as described in the government's Statement of Work, and those services as defined in their respective CSPs, meet services required to manage the shared system infrastructure and operation?

☐ Meets ☐ Exceeds ☐ Does Not Meet

Substantiate/Comment: [DoubleClickHere]

78. Considering the alternative of operating and maintaining independent government LMR systems, would the same system management and operations management services be required?

☐ Yes ☐ No

79. Based on your response to question 78, would they be performed primarily by government personnel or outsourced contract personnel?

☐ Government ☐ Contract

Substantiate/Comment: [DoubleClickHere]

80. What is the overall economic impact to your organization resulting from the outsourced services for the SMO and OMO of the shared system infrastructure?

Substantiate/Comment: [DoubleClickHere]

D. Information Assurance

Background. The DoD must operate communications systems that comply with DoD Directive 8510.01, Information Assurance Certification and Accreditation Process (DIACAP) and DoD Instruction 8500.2 Information Assurance (IA) Implementation. DIACAP evaluates IA controls and determines if a system provides the appropriate level of security to eliminate or mitigate risks to the system and/or its data and content, so that the system is available to provide the required level of services for the missions supported by that system. Compliance with IA directives and instructions provides a very robust and survivable system, ensuring its availability to meet the stated mission assurance category. As such, the DoD completed the DIACAP on ALMR and has classified the shared system infrastructure as Mission Essential, processing operational data that is sensitive, but unclassified. The DIACAP has inherent implementation and operational costs. Based upon you understanding of DIACAP, and the IA purpose and process:

ALMR Stakeholder Survey (continued)

81. What operational impact and cost impact does the ALMR shared system compliance with DIACAP have on your agency's independent operation?

Substantiate/Comment: [DoubleClickHere]

82. State and Local Government Only. Would you describe the sustainment and availability of the ALMR shared system infrastructure as:

☐ Mission Critical - sustained or extended loss of the capability for periods of time would be grave, causing safety, security and or inability to meet mission needs

☐ Mission Essential - sustained loss or extended loss for periods of time would have a detrimental effect to meeting mission needs

☐ Mission Support - sustained or extended loss for periods of time would have no serious effect on meeting mission needs

☐ Not State or Local Government

Substantiate/Comment: [DoubleClickHere]

83. DoD Only. Considering the alternative of implementing and operating independent government LMR systems, would the cost of DIACAP compliance be less, equal or more than that compared to the shared system approach?

☐ Less ☐ Equal ☐ More ☐ Not DoD

Substantiate/Comment: [DoubleClickHere]

84. Considering that the ALMR shared system provides mission essential, or higher, communications services for first responders from federal, state and local government agencies, should implementation and sustainment of the appropriate level of IA compliance be an inherent governmental responsibility of meeting national level goals and objectives for providing communications interoperability?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

85. What is the overall economic impact to your agency resulting from the DoD implementation and sustainment of IA compliance on the shared ALMR system?

Substantiate/Comment: [DoubleClickHere]

E. Cost

(E1) Total Cost of Ownership

Background. Two Total Cost of Ownership (TOC) studies have been conducted on the ALMR System. The first was performed in 2005 and examined the comparative cost of legacy systems. The second, conducted earlier this year, examined the total historical cost, as well as the projected cost of operating the shared infrastructure over the expected lifecycle of the shared system. Based on your understanding of these documents:

ALMR Stakeholder Survey (continued)

86. Do you believe these studies accurately captured the legacy system costs, the historical costs and the projected future costs?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

87. Considering the alternative of operating independent government LMR systems, does your agency have any supporting information that would substantiate the total cost of this approach?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

88. Considering the alternative of operating independent government LMR systems, and based upon your understanding of national policy, goals and objectives, total cost of ownership, operational capabilities, benefits or detractors of the shared system approach and the economic impact to your organization, is it feasible to sustain participation in ALMR?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

(E2) Cost Share Process

Background. A Cost Share Process was conducted in parallel with the current TCO study to determine a cost-share strategy for the operations and maintenance (O&M) of the shared system infrastructure. This process guided stakeholders in developing and agreeing to an approach for executing a cost share among stakeholders and a method of allocating individual agency costs. Many courses of action were examined by all stakeholders, and after coordination and compromise, an approach and method were approved by the EC.

The agreed upon cost share approach is that infrastructure O&M costs are to be paid by the infrastructure owners, and the costs of the services provided by the OMO, SMO and circuit costs supporting the shared network are to be shared by all stakeholders. The approved method for sharing the services portion of the O&M costs among all stakeholders was to pro rate them based on the number of radios registered on the system, or in other terms, a flat fee cost per radio, per month. This was derived by dividing the number of radios on the system (at the time the method was approved) into the cost of the shared services. Currently, the cost is $18.00 per radio per month. The next step is to execute a cost share agreement that apportions costs to each major stakeholder and then to execute the cost share via Membership Agreements with each user/agency level. Based on your understanding of the Cost Share:

89. Do you believe the Cost Share process followed by the EC to derive a cost-share approach and method was equitable and fair?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

90. Considering what it costs to provide other forms of communications in support of your agency day-to-day missions (telephone, subscriber cell phone, data services, etc.), is the estimated cost per month per subscriber reasonable?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

91. Based upon your understanding of the overall capabilities previously described in this survey, and provided by the ALMR partnership and shared infrastructure approach, is a cost of $18.00 per subscriber per month warranted and cost effective?

☐ Warranted ☐ Yes ☐ No

☐ Cost Effective ☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

92. The cost share approach and method are renewable on an annual basis, providing the ability of the stakeholders to re-evaluate the cost share to ensure that it continues to fulfill the collective needs of all users/agencies. The cost share agreement is also executed annually and addresses the cost share for the next State fiscal year. Is there any economic impact on your agency by this approach?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

93. Is there sufficient time to budget and receive an appropriation to meet agreed upon costs?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

94. Based upon the cost share approach, do you feel there are any inherent liabilities or risks that make it unacceptable to your agency?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

95. What is the overall economic impact to your agency as a result of the approved cost share approach and method?

Substantiate/Comment: [DoubleClickHere]

F. ALMR Separation Study

Background. To provide information to stakeholders in the development of a business case to sustain or not sustain the ALMR shared system approach, and to investigate plausible alternatives, a White Paper was developed and a corresponding System Design System Analysis (SDSA) was completed. The White Paper examined the feasibility of separating the ALMR into independent communication networks and to provide technical and cost alternatives to the shared system approach.

96. Based upon your understanding of the White Paper and associated SDSA, is the information/requirement pertaining to your agency correct?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

ALMR Stakeholder Survey (continued)

97. Based on the ALMR partnership approach, the national goals and objectives, the current capabilities, capital investment already made, current shared operations and maintenance costs, the TCO and the findings in the White Paper and associated SDSA, does your agency find it economically feasible and economically sound to cease partnership in ALMR and operation on the shared system infrastructure and to operate an independent government LMR system?

☐ Yes ☐ No

Substantiate/Comment: [DoubleClickHere]

G. Closing

98. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

Substantiate/Comment: [DoubleClickHere]

99. With regard to economic impact on your organization, what do you see as your top concerns/issues? Why?

Substantiate/Comment: [DoubleClickHere]

Attachment H

ALMR Stakeholder Interviews

ALMR Stakeholders were interviewed to determine their top 3-5 concerns with regard to maintaining the existing ALMR on a cost sharing basis versus the creations of separate systems for each stakeholder.

A Stakeholder Survey (Attachment G) was provided to each interviewee in advance to list the summary questions to be discussed in the interview. The first page of the survey summarized the topics presented in the survey at a high level and were addressed in the face-to-face Stakeholder Interviews.

The remainder of the survey was an in-depth list of questions which consisted of a checkbox selection and a textbox for substantiation/comment. The Stakeholder Survey template is provided in Attachment G. The Stakeholder checkbox and written responses are extracted (to reduce space requirements) and presented in Attachment I.

Agencies interviewed are listed below. Their verbal responses to the Stakeholder Questionnaire during the interview are summarized with their identification.

Table H-1 lists the Stakeholder, Agency, and person(s) participating in the interviews.

Table H-1. Stakeholder Interviews

Date/Time	Interviewee	Organization
Monday 10/13/08 (Interview #1)	Leo Von Scheben + Ocie Adams	Commissioner, Alaska Dept of Transportation/Public Facilities (DOT/PF) 4111 Aviation Dr., Anchorage, AK
Monday 10/13/08 (Interview #2)	Matt Leveque	Alaska State Troopers (AST)/UC AK Dept of Public Safety 5700 Tudor Road, Anchorage, AK
Monday 10/13/08 (Interview #3)	Joseph Masters	Commissioner, Alaska Dept of Public Safety (DPS) 5700 Tudor Road, Anchorage, AK
Tuesday 10/14/08 (Interview #4)	Jim Caldwell	Transportation Security Administration Anchorage, AK
Tuesday 10/14/08 (Interview #5)	Heather Handyside +Trygve Erickson	Assistant City Manager, Anchorage City Hall 632 W. 6th Ave, 8th floor, Anchorage, AK
Wednesday 10/15/08 (Interview #6)	COL Darin Talkington	USARAK G-6 Bldg 1, Ft. Richardson, AK
Thursday 10/16/08 (Interview #7)	Major Amy Osterhout; Mr William Mitchell	354 Communications Squadron, Eielson AFB, AK
Thursday 10/16/08 (Interview #8)	Dan Hoffman	Fairbanks Police Department 911 Cushman St, Fairbanks, AK
Thursday 10/16/08 (Interview #9)	Warren Cummings	Fairbanks Fire Department 1101 Cushman St, Fairbanks, AK
Thursday 10/16/08 (Interview #10)	Chief Jeff Tucker	North Star Fire Service Area 2358 Bradway Road, North Pole, AK
Thursday 10/16/08 (Interview #11)	David Gibbs	Fairbanks North Star Borough (FNSB/UC) 3175 Peger Road, Fairbanks, AK
Monday 10/20/08 (Interview #12a)	Adrian DeLuna	Drug Enforcement Agency (DEA) 400 2nd Avenue West, Seattle, WA
Friday 10/24/2008 (Interview #12b telecon)	Fred Smith; +Adrian DeLuna	Drug Enforcement Agency (DEA) 400 2nd Avenue West, Seattle, WA
Monday 11/24/2008 (Interview #13 email)	Col. Kristine Clifton	ALCOM J-6 Elmendorf, AK
Thursday 11/13/2008 (Interview #14 telecon)	Rachael Petro; +James Kohler	Deputy Commissioner, Alaska Dept of Administration (DOA), Anchorage, AK
Not Available (Interview #15 telecon)	Larry Zanella	Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF), US Dept of Justice
Thursday 12/18/2008 (Interview #16 telecon)	Lt Col Shrunk	Commander, 3rd Communications Squadron, Elmendorf AFB

The results of the 16 interviews are documented below. The interviewees have reviewed these notes and validated their positions.

Item H from the questionnaire in the face-to-face interviews asks, "In summary, what do you see as your top 3-5 concerns/issues?" The following Tables highlights the key issues expressed in those interviews. Since there may be unsubstantiated opinion expressed during the interview,

Table H-3. Top Concerns, Interoperability

- Interoperability is a prime concern for those responsible for maintaining vehicles for multiple state agencies and supporting emergency services such as: personnel to cut fire brakes; provide on-scene response to for traffic control, to provide hazardous spill control/clean up and to secure accident sites on the Dalton Highway until AST arrives.
- We need the level of interoperability ALMR offers. We have concerns that splitting the system into independent nets will reduce their capability to easily interface with other agencies. We have no plan for an alternative. It would start over with unknown consequences/cost. State organizations are tightly intertwined and must have interoperability; need communications between railroad, DOD, and State.
- Interoperability is the bottom line for participation (technology is achieved now, training is a bigger long-term job, and habits of using the technology on a daily basis. It's such a fundamental requirement that cost shouldn't preclude any particular member. Without ALMR, we would have to go back to current capability which is limited, especially near or outside city limits.
- Interoperability to deliver service is primary concern–can only happen with ALMR-type system, not what was before. We could not duplicate without partnerships–unknown-but-high costs. Big agencies need the same thing; even just having State agencies on a separate system would require something with capabilities and characteristics similar to ALMR. Separating ALMR might mean moving back to legacy systems. Had DOD not been willing to participate in this effort, it wouldn't have happened. If setting up a separate system for State is required, it likely will not offer comparable capabilities, or if it does, it will experience increased costs.
- We would not be able to implement or sustain the level of interoperable coordination across independent systems as is now attainable through the ALMR consortium model. ALMR provides a system that can be used by all stakeholders on a daily basis. When a multi-level response occurs, this benefit eliminates any learning curve or different operating procedures to be implemented during an incident response.
- Interoperability is required; we have "ripped out" legacy system and need ALMR.
- Interoperability is a great benefit, but our responsibility for fire response is within city limits and does not necessarily require interoperability unless responding to "mutual assistance" situations for State and DOD. Interoperability is good day-to-day, promoting interaction. It needs to be exercised more often to be more effective.

Table H-4. Top Concerns, Cost

- Can't afford to lose ALMR–other system options would be too expensive. Safety of life is a difficult issue to quantify. Setting up a separate ALMR would be too costly because of the geographic spread.
- We are concerned about the recurring costs to maintain their radios under the current ALMR construct, but it accepts the ALMR fee as the cost of doing business. If the system were split apart this would create additional budget issues. We would be "back to the drawing board" for radio service. For instance, we depend on the OMO for training. We depend on the ALMR Systems and Operations management to provide the technical guidance and expertise that mitigates stakeholders from having to pay for these requirements on a separate system. Without ALMR, we would probably have to hire a consultant for advice.
- While the cost is not a paralyzing factor for some organization it well could be for smaller municipalities and some Federal non-DOD partners. There is concern that costs may preclude some partners from participating in ALMR.
- We need to find a method to finance our share or reduce our portion of this cost. Current cost levels make it difficult to justify our participation.
- The system is better now and cheaper than the legacy system. We have concerns regarding the separation of ALMR into separate entities. We don't want to "go it alone". This would be much more expensive for us.
- Cost will be a driving factor to be forced out of the system or adequate daily use. We do not want cost to local agencies to preclude us from participating in ALMR. ALMR participation viewed from multiple perspectives shows tremendous advantages, efficiencies and progress made toward interagency cooperation and improvements in interoperability for first responders. There is the need to facilitate the participation of as many users as possible and it is imperative to remove cost as an obstacle.
- Cost of ALMR is really important at the local level. It is an inherent State responsibility to handle natural disasters and facilitate interoperability.

Table H-5. Top Concerns, Funding

- USARAK is responsible to two COCOMS. Their units belong to PACOM, but the landscape belongs to NORTHCOM. They train to fight wars but also need to prepare for Homeland Defense. The question arises as to which COCOM benefits from ALMR. Army has obligations to both COCOMs, so may fund ALMR regardless. G6 sees utility in both arenas. However, when budgets get tighter in coming years, the Army may not want to continue to fund without strong support for Homeland Security, especially if ALMR is not similar to requirements for other areas of support.
- State has provided funding, but if cost is pushed down to local level, it is a concern.

Table H-6. Top Concerns, Additional Coverage

- ALMR started with a large build out plan, now scaled back, still have work to do to finish. The Tok Cut-off needs two repeaters to provide coverage to a highway which has hazardous cargo traffic nearly ever day of the year. Another highway with daily hazardous cargo traffic is the Dalton highway which has no ALMR coverage. Southeast Alaska coverage is also a problem. Haines, Skagway and Juneau are the only Southeast Alaska locations to get ALMR repeaters.
- There are other locations with commercial airports, ferries and national highway system roads which are in the plan but have not received repeaters are Sitka, Klawock, Wrangle and Petersburg.
- In the past we managed and maintained our repeaters in Western Alaska. Now we have no staff to support low band repeaters or subscriber radios and management has no plan to build out repeaters at Yakutat in southeast or any of Western Alaska. This leaves 27 locations to fund additional coverage. Communities/Municipalities also should agree this support is necessary.
- Our organization has coverage in 95% of area of interest. We would like coverage in Dutch Harbor, but there are no current plans to expand in that area. Prior to ALMR their legacy system had the capability to link their WA office with operations in AK. ALMR doesn't currently do this. We would like OMO to research this potential capability.
- Coverage in some areas is not sufficient. We recognize there is a cost associated with expanding the coverage, enhancing system performance, eliminating "busy" signals, and adding more channels.

Table H-7. Top Concerns, Maintenance

- Need good contractors for installations. Manning would be best way to maintain and install the ALMR equipment. Repeaters and tower work need more high quality workmen.
- Execution and sustainment of a Service Level Agreement and the ability of the stakeholders to meet the agreed upon levels.

Table H-8. Top Concerns, Other

- We reiterated the longstanding discussion on inherent government responsibility and see that responsibility at all levels, but we would continue discussion with the legislature about state funding of SOA and municipal cost share.
- Lack of State support to truly push statewide, i.e., no State Champion.
- ALMR hasn't been stable long enough. There is a concern the requirements will become vendor driven (to upgrade frequently at added cost, e.g., over-the-air programming as possible future upgrade, great capability, but at increased cost) instead of customer driven. And vendors will lead customers to chase technology. (ALMR has had three major upgrades before going operational; one was for Anchorage, one was for DOD.) It is an ALMR responsibility to review technology annually and make recommendations to the User Council and on to the Executive Council.
- Building Penetration is an issue because of the limitation. How can the User Council address? Is BDA the answer to make it work everywhere?
- We expressed concern about some agencies not buying into ALMR since it is designed for statewide use. Not everyone is a fan, i.e., State Department of Forestry/Natural Resources (they use cached radios and conventional for many cases).
- Not in control of technology; what is service life; no control over replacement equipment and upgrades (i.e., technology creep). Local levels don't need some of the capabilities, such as encryption, but may have to pay for it to meet other users' requirements.
- Contracting for services such as Operations Management, Systems Management and Maintenance of the ALMR shared system. Very complex contracting solutions are required to facilitate each level of governments contracting rules and requirements, while trying to sustain a single contract service provider for the shared system. It would be very difficult to administer and sustain if each individual stakeholder executed separate and independent contract services to sustain a single shared system.
- The stakeholders willingness to fund and sustain the deliberative planning processes to ensure interoperability; such as updating and execution of tactical interoperability plans, standard operating procedures, interoperability protocols, exercising and training. These elements are as important to the success of the shared system as is sustainment of the maintenance and system management of the shared system. However these are the areas least considered and most often not funded by the stakeholders.

H.1 ALMR Stakeholder Interview: DOT

Agency Information:

Agency Stakeholder: Alaska Department of Transportation and Public Facilities (DOT&PF)

Agency Address: 3132 Channel Drive, Suite 300 / PO Box 112500, Juneau, AK 99811-2500

Agency Interviewee: Leo von Scheben, Commissioner; Ocie Adams

Agency POC Name/Phone/Email: Ocie Adams / 907-465-6940 / ocie.adams@alaska.gov

Date Completed: 10/13/2008 by Gerry Corwin and Kevin Jones with Del Smith

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- "This is the best communications system DOT&PF has ever had." 95% coverage on highway system. The legacy system coverage was only 45%. Yes, ALMR is worth the trouble of being compliant; need to look at Alaska's strategic position; DOT&PF needs robust system. Much better off than going alone, repeaters are important, cost alone would jump tremendously, also gives reliable service.

b. Narrowband Mandates?

- Federal Highway Administration funding helped accelerate compliance by providing $4.094M to purchase subscriber equipment, installations and training State of Alaska funding provided an additional $1.39M. Not all of the DOT&PF locations have migrated from low wideband to VHF narrowband due to lack of repeaters.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Governance is very good and needed, communications is very important. Responsibility to other organizations (like Forest Service) to maintain vehicles.
- Regarding technology, cell phones don't have enough coverage. The Alaska Legislature did not understand why that technology left capability gaps. In addition to coverage limitations, cell technology can only accommodate 40-50% of users simultaneously. This would present significant problems during peak usage in a disaster response scenario.
- Training and exercises are an ongoing problem for everyone (including DOT&PF); it does take time, is an issue, but people respond well! ALMR radios are more sophisticated than legacy radios and require more training.
- ALMR provides the best communications coverage DOT&PF has ever had in its history. It's extremely important to maintain interoperability with such a robust system as ALMR. The repeater system allows roaming which offers more capability than splitting ALMR into separate systems.

- ALMR eliminates the past need to share radios to achieve interoperability. DOT&PF cited the Big Lake fire that surfaced numerous communication problems now mitigated by ALMR capabilities.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Regarding User Council, it took time to validate and give service required. ALMR has always been diligent to do that!
- Now have more formal agreements that DHS wants and recognizes.
- CSPs are worthwhile.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- It is an inherent responsibility to provide interoperable communications for DOT&PF and people of Alaska.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- At $18/month/subscriber, DOT&PF cost is $281,000. ALMR provides 50% more coverage. If it went it alone, it would probably cost more than twice as much for common support.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Already working and well along.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Additional Coverage. ALMR started with a large build out plan, now scaled back, still have work to do to finish. The Tok Cut-off needs two repeaters to provide coverage to a highway which has hazardous cargo traffic nearly ever day of the year. Another highway with daily hazardous cargo traffic is the Dalton highway which has no ALMR coverage. Southeast Alaska coverage is also a problem. Haines, Skagway and Juneau are the only Southeast Alaska locations to get ALMR repeaters. The other locations with commercial airports, ferries and national highway system roads which are in the plan but have not received repeaters are Sitka, Klawock, Wrangle and Petersburg. In the past DOA ETS managed and maintained the repeaters in Western Alaska. Now ETS has no staff to support low band repeaters or subscriber radios and DOA management has no plan to build out repeaters at Yakutat in southeast or any of Western Alaska. This leaves 27 locations up to DOT&PF/DPS to fund additional coverage. Communities/Municipalities also should agree this support is necessary.
- Cost. Can't afford to lose ALMR–other system options would be way too expensive. Safety of life is a difficult issue to quantify.
- Maintenance Quality. Need good contractors for installations. ETS manning would be best way to maintain and install the ALMR equipment. Repeaters and tower work need more high quality workmen.
- Separate Systems. This would require an unacceptable capital investment of approximately 18 additional repeaters to achieve the same coverage. These would cost $1.5M per site in addition to $15-30K for equipment at each new site. That equates to a cost much greater than their current outlay. ALMR has fostered cooperation; only complaint of separation is that it is the wrong way to go. No reason to go back.

- Interoperability is a prime concern for DOT&PF. They are responsible for maintaining vehicles for multiple state agencies and supporting emergency services such as: DOT&PF personnel to cut fire brakes; provide on-scene response to for traffic control, to provide hazardous spill control/clean up and to secure accident sites on the Dalton Highway until AST arrives.

H.2 ALMR Stakeholder Interview: AST

Agency Information:

Agency Stakeholder: Alaska State Troopers (AST)/UC, Alaska Department of Public Safety

Agency Address: 5700 E. Tudor Rd, Anchorage, AK, 99507

Agency Interviewee: Major Matthew C Leveque, Deputy Director - Field Operations

Agency POC Name/Phone/Email: self, 907-269-5697, matt.leveque@alaska.gov

Date Completed: 10/13/2008 by Gerry Corwin and Kevin Jones with Joe Quickel

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- AST considers ALMR to be in very close compliance with National Policy and by default that puts AST in compliance. AST has interoperability needs whether mandated by National Policy or not.
- AST is on the right side of the DHS continuum. "Organization" is needed and ALMR provides it. AST could go back to old way of doing business, but it would be a huge step backward.

b. Narrowband Mandates?

- The transition to narrowband mandates just happened to coincide with the demise of our obsolete legacy system. This replacement of legacy hardware would have been significantly more costly had ALMR not funded this requirement.
- While these mandates no doubt are meaningful in some places in the US, they can be costly for small communities and probably are not necessary. Narrowband frequencies present a better solution for more congested areas (such as the lower 48) who may need more selective bandwidth. This is not the case for the sparsely populated areas in AK; mandates are not needed.
- ALMR provides a significant degree of added safety, e.g., Anchorage to Fairbanks drive no longer needs 4 or 5 manual switches between repeater channels; ALMR switches from radio tower to radio tower automatically.
- With respect to costs, AST's legacy system, even if it could be reconstituted, is not narrowband, and a change away from ALMR would appear to be very expensive. AST noted that narrowband mandates have slipped in the past. Currently it is effective in 2013, but perhaps it will slip again. But satisfying the narrowbanding mandate is a "must have" for municipalities to get DHS grant funding. Grants especially benefit municipalities. It is hard to imagine that the "narrowband police" will fly around Alaska to pull the plug on out-of-compliance systems. The narrowbanding mandate isn't an issue for agencies on ALMR, provided that ALMR stays intact.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Re Governance, it will continue to be a challenge for some stakeholders as they figure out how they will fit within the ALMR construct. This is not a problem for DOD or SOA

users. However, it's sometimes hard to achieve a consensus among non-DOD Federal organizations and some small municipalities don't always see benefits from belonging to the larger ALMR enterprise. Naturally, governance would be easier (no need to negotiate or arbitrate) if everyone operated their own systems–but there would not be seamless interoperability.

- AST has a more significant interoperability requirement than most agencies. At a recent high profile political event in Anchorage, AST was able to bring troopers from outside south-central and not have to reprogram their radios. "No bizarre workarounds." From a governance perspective, Non-DOD Federal agencies have a harder time reaching consensus. Ditto local government participants. Because there isn't an overarching chief executive like DOD and SOA have, they are not as cohesive.
- Re SOPS, if ALMR was not a shared system, there would appear to be less of an impetus for standard operating procedures between users.
- Re Technology, the benefits of the ALMR Operations Management and System Management offices and User Council is that there are multiple users from various levels of government and it has professional managers to handle and guide users with technology challenges. The ALMR staff is able to help the small organizations go the right direction.
- Re Training and Exercises, always more needed; in a recent incident, a Trooper didn't know he had the capability to speak directly with Alaska DOT. AST is doing far more communications exercises since ALMR than ever before–a tangible benefit is that infrequent users (e.g., DHS and National Guard) will become more familiar with the equipment and be ready "when bad things happen." Interagency communications is the big reason for exercises. Intangible benefits include planning for exercises which provides an opportunity to work together.
- Re Maturity, there are holes in coverage, but AST has had that problem for years (Tok Cutoff for example) and will just continue to work around it. It is all about the cost of expanding the reach of ALMR.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Re User Council, AST noted one concern of the Alaska Council on EMS it that they feel ALMR "doesn't work for us" (comment noted by stakeholder from an EMS provider outside the coverage area).
- Re Separation Study, it would be impractical for AST to revert to their legacy systems simply because they have not been maintained and the cost to update them would be impractical. AST believes that most who are pro-Separation have not fully considered the costs or interoperability degradation associated with such a proposal.
- AST notes that it cannot talk to Anchorage Police Department today, but that will be fixed next year. However, AST and APD have dissimilar 10-codes. An intangible benefit of interoperability is that more people and organizations are able to talk and that engenders cooperation. E.g., for a recent Whaling Conference, AST ALMR radios were loaned to the Anchorage Police Department along with some quick training to provide area-wide interoperability.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- Tearing apart ALMR could not in any way be less costly, certainly not interoperability-wise.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- Revisit. AST notes that many places in Alaska are without phone service of any kind, rural not bush; less than 40 miles outside of Anchorage, but still on the road system, there are areas without cellular phone service.
- AST experiences too many incidents in places that ALMR does not yet cover. Expanding ALMR would help that.
- Workarounds are automatic now, direct connect, e.g., to Anchorage Police Department with a gateway (Motorola's Motobridge™).

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Commitment. If agencies drop out of ALMR after making such progress on interoperability, it would be reduce the current number of stakeholders they now share interoperability with. There would be increased challenges and expense with increasing need for re-keying radios. Scanning in radios wouldn't be as effective (would lose priority scan function, therefore miss data; ultimately would have to revisit interoperability process). There would be an increased cost to AST. Municipalities and AST would have to figure out how their new systems and AST would talk to one another and this would create problems across the state.
- Separation. Pulling the ALMR system apart and setting up separate systems would create a network of disassociated communications. This would lead to a less flexible, outmoded communication system. Most stakeholders are probably unaware of capabilities they didn't have prior to ALMR. They now have a system that's better than satellite coverage in some areas. ALMR precludes users from having to be patched multiple times to get to the person they want to communicate with.
- Cost. While the cost is not a paralyzing factor for AST it well could be for smaller municipalities and some Federal non-DOD partners. AST is concerned that costs may preclude some partners from participating in ALMR.
- Interoperability. Interoperability exists across the road system with ALMR, but municipalities might decide that the cost of participation is not worth the capabilities ALMR brings, if costs are too steep.
- Coverage. Coverage in some areas is not sufficient. AST recognizes there is a cost associated with expanding the coverage, enhancing system performance, eliminating "busy" signals, and adding more channels.

H.3 ALMR Stakeholder Interview: DPS

Agency Information:

Agency Stakeholder: Alaska Department of Public Safety (DPS)

Agency Address: 5700 Tudor Road, Anchorage, Alaska

Agency Interviewee: Joseph Masters, Commissioner

Agency POC Name/Phone/Email: Major Matthew Leveque, 907-269-5511, matt.leveque@alaska.gov

Date Completed: 10/13/2008 **by** Gerry Corwin and Kevin Jones with Joe Quickel

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- I imagine it would be expensive to maintain compliance with NECP if ALMR agencies set up separate systems. Moving away from ALMR would be going backwards.

b. Narrowband Mandates?

- FCC directives; separate systems would have immediate impact; would need newer, expensive technology, but doesn't know economic impact, at this point, if separate. If pulled apart, DPS would not want to go back to old way of doing business (not an option); would need an ALMR-type system, but that would cause duplication of infrastructure.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Re SOPS, Interoperability capability now is so far ahead of 3 years ago, can't go back, don't want to go back. Safety is great feature of System; keying the radio provides immediate identification of caller (though not location yet until GPS capability is added). This is a huge safety issue given the remoteness of DPS work area.
- Re Technology, Intangible benefit is that ALMR provides life-critical capability. Governance is more complex under proprietary systems, specifying who has access, etc. Any changes in radio upgrades are easier when everyone is on the same system. In prior years, proprietary systems made interoperability and upgrades much tougher and more complex.
- Re Training and Exercises, Other intangibles, from training and ALMR coverage capability, are (1) a lot of people working together, not just talking together and (2) ALMR is now a known capability, i.e., for problem solving and now can communicate to new areas (more than ever before). To take away that capability is to decrease safety of responders and impact perceptions by responders on value of life issues (young troopers expect the Department to do all it can; employees feel valued with coverage and interoperability of ALMR).

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Commissioner is new on the job (2 weeks) and has not formed an opinion yet.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- Department of Public Safety will pay whatever it has to pay. DPS wanted what "everyone would agree on" for cost sharing, i.e., supported consensus of stakeholders in order to move forward. Because of the number of subscriber units DPS fields, it will pay a lot no matter what cost share option was adopted. The consensus cost sharing approach was acceptable.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- None.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes, already working.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Interoperability. Interoperability to deliver service is primary concern–can only happen with ALMR-type system, not what was before. State could not duplicate without partnerships–unknown-but-high costs. Big agencies need the same thing; even just having State agencies on a separate system would require something with capabilities and characteristics similar to ALMR. (An advantage of "Talk Groups" is that they make a joint effort simple.) Separating ALMR might mean moving back to legacy systems. Had DOD not been willing to participate in this effort, it wouldn't have happened. If setting up a separate system for State is required, it likely will not offer comparable capabilities, or if it does, it will experience increased costs. And State of Alaska users (DOT, DOC, DPS, H&SS, etc) need a statewide system, even if it was restricted to only State users.
- Safety. Personnel safety would likely be compromised if the State had to set up a separate system.
- Cost. Cost, because of interoperability and safety. Setting up a separate ALMR would be too costly because of the geographic spread.
- Governance. Governance is not an issue. DPS feels they would still work closely with other emergency responders to achieve interoperability in the absence of ALMR.

H.4 ALMR Stakeholder Interview: TSA

Agency Information:

Agency Stakeholder: Transportation Security Administration (TSA)

Agency Address: 4000 W 50th Avenue, Suite 300, Anchorage, AK 99502

Agency Interviewee: Jim Caldwell

Agency POC Name/Phone/Email: self, 907-771-2989, jim.caldwell@dhs.gov

Date Completed: 10/14/2008 **by** Kevin Jones and Gerry Corwin with Del Smith

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- TSA explained the scope of its participation in ALMR. TSA had a total of 31 subscribers split between Anchorage (19), Juneau (5) and Fairbanks (7). This TSA division is responsible for railways and airport security. TSA (Jim Caldwell) is an alternate member of the ALMR User Council.
- TSA finds it helpful to be on the high end of compliance and TSA is satisfied with ALMR.

b. Narrowband Mandates?

- No comment.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Re Governance, having a regional committee facilitates interoperability. Would not know how to establish and maintain interoperability without ALMR. TSA has responsibility for railroads, and airports, across the state; TSA has responsibility for Alaska Railroad which runs through DOD/Federal/State property and needs interoperability with those organizations.
- Re SOPs, without ALMR standards, TSA would need many more channels.
- Re Technology, ALMR is VHF for long distance communications, and it "works like a charm." TSA can talk across the state in real world which it did recently in a "heightened awareness" posture, with its staff providing" enhanced visibility" Supervision and communications monitoring capability were provided by the use of ALMR. OMO helps program radio Talk Groups. TSA is able to communicate with distant areas via the ALMR WAN on SATS. If ALMR is separated, TSA would have to start all over.
- Re Training and Exercises, Training on the system has been relatively easy. They use OMO support to accomplish basic training at no cost to TSA. ALMR provides a training course on a CD for the Motorola radio. TSA could do train-the-trainer. As far as real world exercises they consider the communications coverage they receive as part of ALMR to be outstanding. At the touch of the radio they have instant access from anywhere between Juneau, Seward and Fairbanks. This has recently proven extremely useful in real world, non-threat instances. TSA has participated in two exercises so far as a transition to full-time ALMR. During this transition period, TSA has liked the capability.

- Re Level of Usage, TSA considers it essential to be able to communicate in secure mode. This enables them to utilize the system in a secure mode unilaterally or interoperably with other agencies.
- Re Maturity, TSA considers interoperability essential to their mission. This capability wasn't easily facilitated by their legacy system. Without the microwave backbone of ALMR they would not have easy access to their other locations as they do today.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- No comments.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- The investment cost for TSA equipment was ~$160K and paid for with TSA appropriated funds. The annual sustainment costs with a per subscriber user fee @ $18 per radio are about $6,500 and will be paid with TSA O&M funding. TSA noted that common investment so far was paid by DOD and SOA, but TSA paid for its own acquisition cost. TSA spent $5,000 per radio for its 31 radios and will pay $6,655 in maintenance per year since it currently "cannot get interoperability any other way."
- Some repeaters for ALMR are on railroad (State) property; if ALMR is separated, would those repeaters be available to TSA?

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- None

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Will do, self.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Cost. TSA is concerned about the recurring costs to maintain their radios under the current ALMR construct, but it accepts the ALMR fee as the cost of doing business. If the system were split apart this would create additional budget issues. TSA would be "back to the drawing board" for radio service. For instance, they depend on the OMO for training. They depend on the ALMR Systems and Operations management to provide the technical guidance and expertise that mitigates stakeholders from having to pay for these requirements on a separate system. Without ALMR, TSA would probably have to hire a consultant for advice.
- Interoperability. TSA needs the level of interoperability ALMR offers. They have concerns that splitting the system into independent nets will reduce their capability to easily interface with other agencies. TSA has no plan for an alternative. It would start over with unknown consequences/cost. TSA needs Anchorage Police Department (APD) interoperability, but APD did not "buy in," only bridge into ALMR through a Motobridge device. State organizations are tightly intertwined and must have interoperability; need communications between railroad, DOD, and State.

Note: Currently APD can only communicate with ALMR equipped radios through a gateway bridge as they operate on a legacy UHF system. But when the transition to 700 MHZ late 2009, they will be fully interoperable with ALMR equipped agencies, including TSA.

H.5 ALMR Stakeholder Interview: MOA

Agency Information:

Agency Stakeholder: Municipality of Anchorage (MOA)

Agency Address: 3650 E. Tudor Rd, Bldg C, Anchorage, AK 99507; City Hall, 632 W 6th Ave, 8th Floor, Anchorage, AK

Agency Interviewee: Trygve Erickson, Director of Wirelss Communications, Traffic Department, and Heather Handyside, Assistant City Manager

Agency POC Name/Phone/Email: self, 907-343-7910, ericksontj@muni.org; Heather Handyside, 907-343-1401, handysideh@muni.org

Date Completed: 10/14/2008 **by** Gerry Corwin/Kevin Jones with Del Smith

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- Small and volunteer organizations can't afford to pay maintenance.
- MOA has approached the state to fund interoperability as an "inherent government responsibility" of the state.
- ALMR has 13,000 (now 15,000+) radios and perhaps 10% are small users such as volunteer fire departments.
- Discussed size of common support for ALMR: OMO with 4 FTE; SMO 7 FTE includes payment for 24/7 monitoring of the system, preventive maintenance, etc.; and circuits that ride the back of SATS WAN.

b. Narrowband Mandates?

- Fire and police mutual aid agreement supports interoperability into/out of the city, e.g., prisoner escort operations by the city.
- Not a issue. The legacy system is 20-25 years old, due for replacement, and would do narrowband anyway. In the 8-9 year working vision for the city, the 700 MHz system is being built out (legacy analog system is 800 MHz). The current systems have no true fire and police interoperability, departments will be transitioned incrementally too 700 MHz system, police last to insure they receive the highest levels of dependability
- MOA is a committed stakeholder. VHF is the right choice for ALMR, but not for the city. MOA planned interoperability with its own zone controller; as a standalone system with interconnectivity. The biggest concern was potential user fees and MOA wanted to avoid any "onerous fees." On the $18/month fee, MOA stated, "it strikes me as high, too high for many of the locals"

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Re Governance, MOA is supportive of the ALMR. Its governance gives structure to the requirements process. It also provides good standards for the way ahead. In addition, the ALMR governance provides mentorship for smaller organizations unfamiliar with

requirements and capabilities for communications and limited budgets to provide technical expertise for themselves.

- MOA described a recent, man-made disaster in a remote area between Anchorage and Fairbanks of a tanker truck overturning and closing the road which resulted in 11 agencies responding. Interoperability is needed for coordination of efforts with this many agencies involved.
- Re Technology, ALMR and the MOA system now allows interoperability between MOA functions that didn't exist in the past. In addition, splitting the ALMR would eliminate or complicate interoperability between MOA and State law enforcement agencies and emergency response units which would be detrimental to public safety in fringe areas around Anchorage where cooperation is often essential.
- Re Training and Exercises, it's rare that MOA injects communications into training exercises with other organizations to test interoperability because of the expense, but should in the future. A limiting factor is that MOA does not have a good template or set of metrics to measure the ability to see if it works effectively and guage the results; it is too abstract. MOA exercises generally involved only local resources which precludes, from MOA perspective, the need for communications training. When involved with larger exercises involving other agencies,then communications training is part of the exercise.
- Re Level of Usage, It's inherent for SOA to implement interoperability with all levels of users. Generally, it's more advantageous to the state because in many instances when they are called in to assist local gov't it's more to the state's advantage to ensure effective communications with local government than the other way around.
- Re Maturity, Governance of the ALMR provides structure to the requirements process.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Re User Council, MOA used to have a seat as a municipality. There is limited impact on the city, but MOA is a willing participant.
- Re Membership Agreement, MOA never really considered going their separate way. Cross agency cooperation was an important consideration for them and interoperability was viewed as a basic requirement for any system they wanted to implement. MOA feels fortunate in not having to spend more and have to make controversial decisions to achieve their interoperability goals. MOA feels because of their remoteness, communications and a greater need for self sufficiency, are essential in the event they required major disaster relief from outside sources. MOA believes that membership in ALMR means a much greater opportunity for grant money to fund capital investment.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- MOA had a long term vision since the genesis of ALMR. However, they were unsure MOA technology decisions would easily merge with the technology philosophy of ALMR. While they planned to be an ALMR stakeholder they were unsure what form that partnership would evolve into. They knew VHF was the technical solution for most of AK but not necessarily for MOA. When MOA had the opportunity to choose 700 MHz and still integrate, it eliminated any obstacles for partnering. They set up their own controller, reached a shared resources agreement and eliminated the potential for user fees which might have been a showstopper.
- The cost differential in splitting the ALMR into separate systems is negligible for MOA. They own their own controller that gives them the capability to operate without ALMR.

- Charging $18/month/subscriber to the city might have made economic sense except grant funding is difficult to use for operations expenses. Funding was available for capitol system expenses and that influenced Anchorage's decision to build AWARN. Also Anchorage could not wait for a definitive decision from the ALMR stakeholders on user fees. Anchorage needed to move forward with a system.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- One intangible benefit that was addressed was the benefit of people from different levels brings them together with a better understanding of how their agencies function; builds better rapport.
- MOA is very impressed with the OMO as a single point of contact for the ALMR that adds tremendous credibility to ALMR moving forward; the OMO coordination is a very positive aspect of ALMR for success. The Executive Council seemed to flounder sometimes. This was overcome by the establishment of the OMO and the Users Council which now provides outreach and background to assist stakeholders to ensure user needs are being met. It was a significant improvement in the eyes of MOA. Credibility is big issue.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Newness. ALMR hasn't been stable long enough. There is a concern the requirements will become vendor driven (to upgrade frequently at added cost, e.g., over-the-air programming as possible future upgrade, great capability, but at increased cost) instead of customer driven. And vendors will lead customers to chase technology. (ALMR has had three major upgrades before going operational; one was for Anchorage, one was for DOD.) It is an ALMR responsibility to review technology annually and make recommendations to the User Council and on to the Executive Council.
- Cost. The decision to cost share ALMR sustainment and overhead costs was "backed into". That is to say that it was short sighted to have users pay a share of these costs when it might be unaffordable to the point of excluding them from participating in the ALMR. There is no direct cost to the SOA in offering ALMR use local government without fees. Often times it benefits the larger stakeholder to have smaller members participate and cost to smaller stakeholders should be absorbed by the state to ensure their participation as an inherent government responsibility. Cost impact to MOA is negligible with ALMR, except for $1M zone controller; maintenance cost is unknown, but probably less that 7% of purchase.
- Interoperability. Interoperability is the bottom line for participation (technology is pretty much achieved now, training is a bigger long-term job, and habits of using the technology on a daily basis). It's such a fundamental requirement that cost shouldn't preclude any particular member. Without ALMR, MOA would have to go back to current capability which is limited, especially near or outside city limits.
- Separation. Splitting the ALMR will cause degradation to interoperability even for the MOA. It will be more of a challenge to provide training whereas now it's easier with everyone using the same equipment.

H.6 ALMR Stakeholder Interview: USARAK/G6

Agency Information:

Agency Stakeholder: USARAK/G6

Agency Address: Bldg 1, Ft Richardson, AK

Agency Interviewee: Col Darin Talkington

Agency POC Name/Phone/Email: self, 907-348-2608, darin.talkington@us.army.mil

Date Completed: 10/15/2008 **by** Gerry Corwin and Kevin Jones with Tim Woodall and Jim Robinson

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- The G6 position is that there isn't a better way to achieve interoperability than ALMR. Army has a policy to implement interoperability, but doesn't know if adequate resources are being applied to make that happen. Support to civil authorities is not as high a priority when considering the scope of competing Army priorities.
- The G6 assessment, having served on the Joint Staff in the past, is that ALMR has "cracked the code" and is "spot on" with National Policy.
- ALMR communications routinely facilitate training and convoys. In the absence of ALMR the Army would default to legacy systems paid from higher Army levels and probably cost more to operate/sustain.

b. Narrowband Mandates?

- G6 had no issues with narrowband mandate compliance whether in ALMR or legacy systems.
- G6 recognizes the need to share frequencies; Project 25-compliant radios facilitate that.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Re Governance, G6 has no issues. He senses that it is "a pretty good deal." DOD/Army is probably better able than most stakeholders to show in the budget process what it really costs and that its portion is fair; e.g., it would not show in the budget that a generator and maintenance at a State site is performed at no cost based on a cooperative agreement, there are no real estate charges, and no hidden costs because the fee covers all common support.
- Re SOPS, Army would still establish SOPs without ALMR to work with other government agencies. However, G6 felt there would be either a direct or indirect cost to implement them that would be greater than what they currently incur using ALMR SOPs and they would have to train to them. It would also cost additional manpower to duplicate operations similar to the SMO considering the 24/7 coverage currently accommodated in the cost share.
- Re Technology, use of Project 25-compliant ALMR radios provides great leverage for use in a disaster or consequence management scenario. G6 has no issue with this.

- Re Training and Exercises, OMO and the ALMR project office typically do deliberative planning and gap analysis so stakeholder does not need to do it. They develop plans for exercises, potential scenarios, SOPs, gap fixes, training and after action items. They follow up and monitor corrective actions. G6 stated that Army would not have the resources to be as effective as OMO in handling these responsibilities.
- Re Maturity, yes, the requirement to support emergency response is an inherent government requirement to add to daily capability for the response.
- Re level of usage, G6 said the Army would probably use their funding for different priorities in the lower 48 where they would operate more autonomously. However, in the AK environment, government agencies are more dependent on each other than for outside support because of the time it would take for outside AK relief to respond.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Re User Council, G6 stated the Army had no problems supporting the User Council. The Cooperative Agreement isn't really binding on the players; however, G6 recognizes that there is a great commitment and support among stakeholders for ALMR. It works.
- Re SLAs, The Army is aware that the SLA calls for higher levels of response times than those required by the Army to meet other stakeholder requirements if the network is deemed mission essential. The difference between Army and State response levels represents a cost of approximately 15% for affected sites. There is no contractual process that allows the Army to maintain at a higher level than required. This added level of support and cost would have to be borne by the state. However, the ALMR cannot accommodate different standards for various stakeholders that employ shared assets. G6 stated that there is an expectation ALMR will work on demand and it would seem there is justification that DOD would approve the Army's acceptance of the 15% differential as a "readiness cost".
- Re the Cooperative Agreement, G6 has read, agrees, and supports.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- G6 feels it would be difficult to break out the cost for Army's fair share. Don't know for sure if the current cost apportionment is a good deal, but assumes it is.
- G6 aware of the current sharing arrangement and the three candidates that were considered: an Air Force and others-proposed tiered approach based on type of usage, the Army-proposed flat rate, and another less-detailed tiered approach. G6 supports the decision to go with the Army proposal. G6 recalled that in 2005, the Army had a legacy system that was costing about $24/radio and it did not have the ALMR capability.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- None

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes, will get it done.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Cost/budgets. USARAK is responsible to two COCOMS. Their units belong to PACOM, but the landscape belongs to NORTHCOM. They train to fight wars but also need to

prepare for Homeland Defense. The question arises as to which COCOM benefits from ALMR. Army has obligations to both COCOMs, so may fund ALMR regardless. G6 sees utility in both arenas. However, when budgets get tighter in coming years, the Army may not want to continue to fund without strong support for Homeland Security, especially if ALMR is not similar to requirements for other areas of support.

- Cooperation. G6 stated it is refreshing to see cooperation across so many different levels of government. G6 has not experienced this effectiveness anywhere else. It is hard to comprehend this level of ability to perform consequence management anywhere else in the lower 48.
- Effectiveness. G6 had a strong sense that building separate capabilities provided by ALMR would cost more and work much less effectively.

H.7 ALMR Stakeholder Interview: Eielson

Agency Information:

Agency Stakeholder: Eielson AFB

Agency Address: 354 Comm Squadron, Eielson AFB, AK

Agency Interviewee: Maj Amy Osterhout, Commander; Mr William Mitchell

Agency POC Name/Phone/Email: self, 907-377-2776, amy.osterhout@eielson.af.mil

Date Completed: 10/16/2008 **by** Kevin Jones with Jim Robinson

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?
- This is not an issue. Eielson recognizes the need to move towards interoperability with varios levels of government agencies and feels they have moved in this direction as a member of ALMR.

b. Narrowband Mandates?
- Again, this was not an issue. Eielson is compliant.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?
- Re SOPS, Eielson would implement SOPs whether as a member of ALMR or an independent entity.
- Re Technology, Eielson feels there are tremendous benefits with ALMR technology and the interoperability it affords them. They have close relationships with local city and burrough emergency services and those at Ft. Wainwright to provide mutual assistance. Interoperability during accident response events or exercises is extremely beneficial to all parties.
- Re Maturity, there have been instances where Eielson perceives upgrades and advances in system capabilities are beyond their requirements. This may or has led to costs they feel they will have to absorb as ALMR members. They have concerns about requirements growth without significant representation to challenge that growth.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?
- Re User Council, Eielson's perception is that this council may need to have more DOD representation. Currently there is one representative for Army and two for Air Force. Many of the issues that are addressed by DOD don't have application to non-DOD members and thereby don't elicit the same level of interest. Eielson feels that this body is not what it was originally intended to be and that is representatives from the lower levels of the user community instead of individuals further removed from day-to-day use of the system.

- Re SLAs, periodic review of Eielson tower usage shows minimal non-Fairbanks activity. This prompted Eielson to consider changes in SLA for that area that might also save on maintenance costs.
- Re Customer Support, while they don't have an in-depth familiarity with specifics and scope of the customer support plans they felt the benefit of the OMO didn't apply to them as a stakeholder and was an unnecessary cost. Eielson is an organization that possesses the "in-house" technical expertise to understand and address their technical concerns. Eielson feels their cost share is comprised of services or layers of capabilities they already can tap into with in-house resources.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- Cost concerns are the single biggest issue Eielson has with ALMR. Prior to the cost sharing agreement everything in support of Eielson was paid for by the AF at a higher level. Under cost sharing, Eielson will have a bill of $550K/annually starting in FY09. They don't believe the benefits outweigh this cost.
- Eielson supports the concept and application of ALMR. However, they are questioning the value of their membership now that they are responsible for such a significant portion of the cost share allocation. Their impression is that they can develop and sustain a similar capability that would pay for itself within ten years by avoiding the cost of ALMR participation. They understood that in order to do this there would have to be a division of current assets and potential disruption to the current interoperability effectiveness between local stakeholders and that this alone would be an imposing challenge to creating an independent system for Eielson.
- During the interview they were made aware of the added challenge of reapplying for frequency usage that is currently allocated on a joint usage criterion. Reapplication to secure similar frequency capability would be difficult at best. This created the impression that they were locked into an agreement and in hindsight, this along with now known cost share, would have affected their perspective on joining ALMR.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- Eielson is faced with an unfunded mandate. They did not receive any additional funding for the ALMR cost share. They were advised by higher headquarters to solicit funding support from their Wing financial office. Whether this is successful or not, they asked about other potential avenues to reduce their portion of the shared costs. One recommendation was to transfer responsibility for Eielson ALMR site maintenance to Eielson thereby reducing overall ALMR maintenance costs and crediting Eielson's cost share portion. Eielson felt it would be less expensive for them to perform this maintenance with their on-site personnel. This should be an issue addressed by ALMR Program Management.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Cost. Eielson needs to find a method to finance their share or reduce their portion of this cost. Current cost levels make it difficult to justify their participation.
- Level of representation on the User Council.

- Separation into separate entities, if an option, is something Eielson would consider depending on what it would cost them in comparison to the status quo and what the non-cost factors such as acquiring frequencies and any degradation to the current levels of interoperability they have.

H.8 ALMR Stakeholder Interview: FPD

Agency Information:

Agency Stakeholder: Fairbanks Police Department (FPD)

Agency Address: 911 Cushman Street, Fairbanks, AK

Agency Interviewee: Dan Hoffman, Chief of Police

Agency POC Name/Phone/Email: self, 907-450-6500, dphoffman@ci.fairbanks.ak.us

Date Completed: 10/16/2008 by Gerry Corwin with Del Smith

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- FPD says that the guidance from the national level and expected compliance with the guidance may not directly impact local organizations, but the "reason for the guidance" as it impacts emergency response, interoperability, and coordination of response resources certainly does. Compliance is why interoperability is important; interoperability is critically important for a coordinated response–a national priority! The State of Alaska (SOA) is 100% on the right track for Homeland Security activities. Police need to talk to other law enforcement, fire and emergency response agencies and disciplines. Absolutely, interoperability is important as national guidance has provided a framework ... legacy systems always posed (in the past) huge communications problems. Grants were a great incentive ("carrot and stick") to be NIMS compliant.

b. Narrowband Mandates?

- FPD Chief is not well versed in the technology, but deputy chief manages a legacy system that is available for backup and FPD plans to upgrade it to be narrowband compliant.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Interoperability is vital! FPD was the first municipality in Alaska on ALMR. FPD does not see another opportunity besides ALMR for interoperability otherwise it would have to build a parallel system and "why would anyone want to do that?" FPD would lose flexibility and efficiency without ALMR.
- Re SOPS, FPD uses OMO as the focal point to solve problems, etc., and it works well. Governance is on a couple of levels: (1) local (Fairbanks has a history of working together and must rely on each other. It is easy for local agencies to adapt to ALMR.); (2) State (User Council is a good idea, it facilitates configuration, everyone is on the "same page" as equipment is added and it works very well.). FPD has helped to establish a new city dispatch center which dispatches several other local agencies; therefore, there is more of a need for interoperability than ever and ALMR is used routinely, maintaining close cooperation.
- Re Technology, FPD notes that in-building communication is a problem; ALMR radios have building penetration problems. It is a cop's nature to always have a fallback (like

paper in files). As good as ALMR is, FPD still wants a backup. FPD intends to re-license its narrowband legacy system, but would not build new if it was not a legacy. As usage broadens, it become even more important to speak plain language; this is facilitated by the technology build into ALMR that makes use of code words unnecessary.

- Re Training and Exercises, tremendously important and should reflect real world. FPD doesn't do as much training and exercises as it would like due to budget and staffing limitations (real issue is too few people). FPD works with Fairbanks North Star borough in training ("in the school"); multi-agency exercises use ALMR. In-building communications technology is weak; FPD had to fall back to conventional in some situations. The performance of EF Johnson portable radios has been an issue. To improve the in-building signal penetration FPD can use bi-directional amplifiers (BDAs) for to improve ALMR performance but cost of doing so is an issue.
- Re Level of Usage, FPD can foresee exercises where potentially it would involve all ALMR stakeholders with the Anchorage operations center (such as a terrorist threat). FPD observes that Alaska is a unique state: distance, limited infrastructure, few highways; agencies have learned to rely on each other; all are satisfied with ALMR.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Re User Council, FPD is biased in favor because the deputy chief is well-versed, technical, and an active member of the User Council. He makes it work, ensuring that FPD concerns are on the agenda. The deputy also works on the details and briefs the chief.
- Re Membership Agreement, "ALMR has met or exceeded every need." Never has FPD had any issues with ALMR. The State should bear some of the costs for State responders on the system, but FPD thinks users should pay something. FPD agrees that interoperability is an inherent government responsibility, and with top priority belonging to the State/Federal to share costs.
- Re the Separation Study, FPD views ALMR as having an outstanding overall system perspective. Everyday use is the best training, but many don't use ALMR that way. ALMR adds capability to bring in other entities that don't normally use radios. Training is the issue, but it is not an ALMR system issue.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- In Fairbanks, cost and resources are always an issue. FPD needs the system and it needs it to communicate statewide, if necessary.
- FPD reiterates two points: (1) "everyone needs to pay their own way", a personal philosophy. Absolutely, Fairbanks should pay something; and (2) to the question, "Do most mandates make sense," the answer is, "yes ... but." Mandates dictate specific equipment. It is a reasonable expectation on the user part that there should be ongoing cost sharing. If the State says this is a top priority, State should include ALMR as part of State DPS budget.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- For sizing, FPD notes that it has 50 portable subscribers and 40-50 mobile subscribers.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Cost. State has provided funding, but if funding is pushed down to local level, it is a concern.
- Interoperability. Continued interoperability is a major (positive) issue; "ALMR does it!" FPD does not want to lose interoperability.
- Building Penetration. This is an issue because of the limitation. How can the User Council address? Is BDA the answer to make it work everywhere?
- Simplicity. FPD wants one radio system; go "whole hog."

H.9 ALMR Stakeholder Interview: FFD

Agency Information:

Agency Stakeholder: Fairbanks Fire Department (FFD)

Agency Address: 1101 Cushman St, Fairbanks, AK 99701-4620

Agency Interviewee: Warren Cummings, Fire Chief

Agency POC Name/Phone/Email: self, 907-450-6604, wcummings@ci.fairbanks.ak.us

Date Completed: 10/16/2008 **by** Gerry Corwin and Kevin Jones with Del Smith

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- FFD should be in compliance, otherwise there are major problems (chaos) in an emergency (e.g., Big Lake fire communications "disaster").
- FFD recognized the need to be compliant. Things work smoother with mutual aid departments. Still have national mutual aid channels available.
- ALMR provides much better coverage than ever before. Conventional is not better, though some think so.
- FFD expects value for compliance in getting grants ... in being NIMS compliant; not completely compliant yet, but expect to be. Will be an ongoing project with turn over in personnel.

b. Narrowband Mandates?

- FFD current, legacy system is wideband. ALMR facilitated compliance with narrowband mandates. FFD expects to re-license as narrowband by the deadline–"aren't (yet), but will." All portables and mobiles are compliant, some base-station-capable, but equipment is no longer manufactured.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Re Governance, FFD is satisfied with the current set up. They have representation on the local level from the Fairbanks Police Department (FPD). Alaska Fire Chiefs Association represents the fire department on an upper level. They are getting the feedback and information they need. There are four levels of interoperability as FFD sees it: (1) local level–Fairbanks city does well (for "operability"); (2) Borough; (3) State, and (4) National. There is more responsibility as you go up for the people under you to interoperate. FFD does not want to get away from interoperability now that ALMR provides; it is committed to make interoperability work.
- Re SOPs, no particular problems here but ALMR doesn't always seem to have a handle on the best way to accomplish some things (e.g., use plain language standards, not code like 10-XX, which means different things to different organizations). However, FFD has a greater comfort level with the existing SOPs for whatever flexibility they gave up. FFD recognizes the detail level of the ALMR SOPs is limited by compromise between so many different user requirements. FFD likes the standardization of how to get a Talk

Group. It appears to FFD that most SOPs are in flux, informal but not written; support needed for SOPs for interoperability–need to be broad, not detailed.

- Re Technology, Police, Fire and Public Works now all use the same radios, just on different Talk Groups. Interoperability was especially important in their region because of their tie in with the local DOD installations for fire responses. Prior to ALMR FFD couldn't communicate directly with Ft Wainwright. Both organizations had to swap radios. Standing next to each other to radio commands but ALMR precludes the "swapping" arrangement and enables the ability to monitor tactical frequencies without congesting them. Big plus. Incident commanders previously needed three radios to monitor and coordinate activities. FFD appreciates the encryption capabilities afforded by ALMR (though no encryption is needed for fire) because it eliminates the need to use code words because civilian scanning is nearly impossible (ALMR is more secure than conventional systems because of its frequency hopping capability). Sometimes FFD still keeps some people on separate channels; the incident commander monitors the situation and passes on information and direction.
- Re Training and Exercises: There is always s a need for training and exercises and FFD wants to do more. ALMR provides opportunities to use more channels which give them the ability to diffuse the amount of traffic and reduce the instances of overloading the system. Overload sometimes occur but ALMR overall is much better. In exercises, evaluator traffic sometimes causes the overload, thus the users did not get a true picture of the exercise.
- Re Interoperability, FFD reiterated that the higher the level of government, the more responsibility that level had for interoperability with agencies below them.
- ALMR is better than conventional systems as the "best means possible" for protecting information regarding patients during medical responses per HIPPA guidance.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Re User Council, FFD is happy with the way ALMR works. There is good balance on membership of the ALMR User Council
- Re Membership Agreement, some radios are not used very often, so $18/month is an issue. E.g., the command van has three radios only used three times a year–under utilization is an issue. FFD has a total of 80 radios (and would like to convert all EF Johnson radios to Motorola). FFD still maintains optional conventional radio capability, same as the police.
- Re SLAs, FFD has no problems. FFD needs to ensure that a system like ALMR works when needed, therefore a high maintenance level is desirable. The cost of having a system using an organization like the SMO adds capability at an acceptable cost.
- Re Separation Study, FFD is aware of the document and understands its position.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- FFD felt the extra cost of ALMR was definitely worth the expense. Initial radio purchases were made with grants but FFD has concerns about the recurring cost share expense. Federal and State governments have an inherent responsibility to ensure interoperability at lower levels and should help offset this cost.
- High technology radios cost more to maintain (a user responsibility) due to labor rates, but not that much more; however, parts are much more expensive. When maintenance costs the user more, there is less funding available for common support fees.

- When measuring cost only apart from capabilities, ALMR is more expensive. Current cost sharing will be approximately $19, 300 annually compared to the legacy costs of $2,000 - $3,000 annually. Their annual radio repair costs are about the same. Thus, it would cost less if FFD only had to focus on local needs. FFD noted that two years ago there was a forest fire that didn't affect the city as a whole, but was a Borough and State problem. FFD was able to participate because of availability of ALMR communications. FFD is willing to do extra for ALMR capability.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- None

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Already completed and returned.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Cost to utilize. Cost of ALMR is really important at the local level. FFD reiterated its position that it is an inherent State responsibility to handle natural disasters and facilitate interoperability.
- Interoperability. Interoperability is a great benefit, but FFD responsibility for fire response is within city limits and does not necessarily require interoperability unless responding to "mutual assistance" situations for State and DOD. Interoperability is good day-to-day, promoting interaction. It needs to be exercised more often to be more effective. There's always a need for more training.
- Commitment. FFD expressed a little bit of a concern about some agencies not buying into ALMR since it is designed for statewide use. Not everyone is a fan, i.e., State Department of Forestry/Natural Resources (they use cached radios and conventional for many cases).

H.10 ALMR Stakeholder Interview: NSFSA

Agency Information:

Agency Stakeholder: North Star Fire Service Area (NSFSA)

Agency Address: 2358 Bradway Rd, North Pole, AK

Agency Interviewee: Jeff Tucker, Fire Chief (ALMR Executive Council member, but speaking as a Stakeholder)

Agency POC Name/Phone/Email: Chief Tucker, 907-488-3400, jtucker@northstarfire.org

Date Completed: 10/16/2008 by Gerry Corwin and Kevin Jones with Del Smith

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- Yes, interoperability is a good idea. No federal mandate to require interoperability for local fire department. "The world" is not as germane for the local organization as to its own people; they do interoperability because it is a good idea, not because someone told them to do so. Everyone in the interior (fire, police) chose to be on an interoperability system, but also will continue to maintain legacy system that is narrowband compliant and meets standards (for paging and local communications). Interoperability is more effective with outside organizations.
- NSFSA felt all stakeholders and potential users should strive to attain the interoperability afforded by the ALMR system. Being a participant in ALMR mitigates any challenges for NSFSA to achieve compliance with National Policy.

b. Narrowband Mandates?

- NSFSA is already compliant (ALMR and legacy/backup). System is about 4 years old and is Project 25 compliant.
- ALMR provides a much more robust capability than their legacy system. NSFSA didn't feel pushed to participate and welcomed the opportunity. They had already chosen to move toward compliance prior to joining ALMR. NSFSA still maintains their legacy conventional system as a backup because ALMR does not have paging capability. ALMR provides NSFSA better options for communications and enhanced interoperability with more agencies.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Re Governance, agencies within the Fairbanks borough already had a history of cooperation prior to ALMR such as using a consolidated dispatch. This cooperation mitigated what could have been an onerous issue of transitioning the community to ALMR. Governance has not been an obstacle.
- Re SOPs, local agencies including NSFSA already have a system in place; it just adapted for ALMR and could/would continue to do SOPs without ALMR.
- Re Training and Exercises, NSFSA already was doing. With ALMR drills, noticed significant improvement to communications–ALMR much more effective, seamless. All

local agencies use the same configuration for their radios. This allows dispatchers to seamlessly manage multiple user needs simultaneously.

- Re Maturity, ALMR has tactical channels, can move incident traffic to prescribed channel (tangible benefit). Used to be more complex.
- NSFSA notes that a digital trunk system like ALMR (and a similar system in Florida) has value, and should be expanded, not regressed; as many as possible should be put on the system.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- The North Star Fire Chief currently represents Local and Municipal government on the ALMR Executive Council on behalf of the Alaska Municipal League. NSFSA has not been adversely impacted as a user. There is no additional burden or imposition by this governance. This allows them to influence the governing documents.
- Re User Council, local things aren't much different. NSFSA feels well represented on the User Council and that their opinions have been adequately addressed. For the interior departments NSFSA is well represented at the UC; however, the other two regions have to build a better representation and that has just started.
- Re Membership Agreement, NSFSA recognizes it has made an agreement to use common support and understands it will soon start costing for services.
- Re Customer Support Plans, ALMR doesn't solve all issues; cannot talk everywhere needed (and nothing does); i.e., repeaters are not everywhere. Why do I care about ALMR? It is another tool, not cure-all, for communications. ALMR is a good choice for most agencies; for all, maybe not. A recent flood demonstrated on a local level the usefulness of the system. The interoperability that the ALMR system afforded allowed two separate flooding incidents to be monitored by the Borough EOC and in turn the EOC could communicate with the State.
- Re Separation Study, NSFSA had not reviewed. Not feasible to revert back to their old system. To go back would lose tremendous capability. Legacy still is used for backup for paging–cheap to maintain, prudent to keep as backup.
- NSFSA said that more than simply being another communication tool, it's important for users to understand the full capabilities ALMR offers. As a stakeholder, NSFSA has too much vested in ALMR to consider breaking it into separate systems.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- The cost impact presents a challenge to NSFSA. It precluded some agencies from becoming "early adopters". Grants paid for most of their investment costs. But this still represented a significant decision point for NSFSA because there is a finite amount of grant money that can be distributed and agencies have competing priorities for this funding besides communication requirements. NSFSA agreed that the $18/month cost per subscriber was a fair allocation. However, there is concern that small agencies cannot absorb this with their budgets and some local users may be inhibited by the price tag. Most currently pay minimal costs to maintain their legacy systems.
- Cost has been an ALMR challenge. So far, capital investment has been paid by grants–users could have bought other (non-radio) equipment with the grants, but chose to buy radios. NSFSA accepts the cost of maintenance once it purchases a radio. Yes, ALMR fees of $18/subscriber/month for common services are fair and equitable. NSFSA questions allocation to local level; small agencies are not as cost effective. Cost is or will become an impediment to small organization interoperability. It should be in State's

best interest to fund and not allow other, competing systems. Homeland Security grants can be for a variety of equipment and history shows most choose radios, but it is choice with other opportunities lost.

- NSFSA recognizes that the ALMR goal of interoperability and from the largest to the smallest agency, it is a benefit to have all agencies on the system. The real world demands experienced radio users on available interoperability systems; little used radios or one-radio-per-organization is inadequate; users need routine, daily usage; untrained users will fall back to the old system until it dies. However, there are some agencies, such as volunteer fire and police that may not be able to afford the cost. They think government grants will continue to diminish over time and ultimately exclude some of those who haven't moved to ALMR already. The best way to alleviate this situation is to petition the state to absorb these costs. This will eliminate obstacles to maximum participation. NSFSA felt it was an inherent responsibility for higher levels of government to ensure those citizens in levels below them were covered by this capability. This coverage benefits state public safety objectives so they should be vested in ensuring the capability exists for lower levels for which they are ultimately responsible.
- While NSFSA agrees with the cost sharing approach and methodology, they question who should be paying for the capability. In the past, they had been unable to petition state legislators with specific costs prior to development of cost share amounts for users. Now that they have this specific data they can move forward with their requests for financial assistance. Another point that NSFSA brought up was the fact that the total sustainment costs to be shared does not increase with the amount of users. The state would pay the same amount regardless of adding users.
- NSFSA brought up the fact that some stakeholders felt that everyone should pay some level of subscriber fee even if only a token amount to show a commitment toward participation. NSFSA felt just the opposite would occur and paying subscriber fees would dis-incentivize participation by those that are challenged to come up with funding. This would work contrary to ALMR objectives to acquire maximum participation. The question of "fair allocation" is in the eye of the beholder; if no funds are available, fair doesn't mean anything.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- NSFSA felt the key to any system success was the ability to retrieve and implement existing emergency response plans. It thinks of ALMR as the backbone for the communication plan to execute an emergency response. If agencies are active/daily participants of ALMR they don't have to think twice about using this tool. However, if cost inhibits or limits participation, the radios won't be used to the extent needed. Agencies that routinely use legacy systems and only employ their limited number of ALMR radios for contingencies will not be able to ramp up quickly or effectively enough in times of crisis. ALMR should not be used just for contingencies. Until the cost issue is resolved, this will be an impediment and likely scenario for some agencies.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes, pretty much completed already.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Losing ALMR. ALMR is the backbone system used everyday and NSFSA does not want to lose or be forced out (it will regress and lose benefits). NSFSA noted significant

advantages with ALMR; breaking ALMR into separate entities would be a detrimental regression and loss of current interoperability benefits.

- Cost. Cost will be a driving factor to be forced out of the system or adequate daily use. NSFSA does not want cost to local agencies to preclude them from participating in ALMR. The NSFSA Chief has the opportunity and experience to view ALMR participation from multiple perspectives. He has seen the tremendous advantages, efficiencies and progress made toward interagency cooperation and improvements in interoperability for first responders. He understands the need to facilitate the participation of as many users as possible and feels it is imperative to remove cost as an obstacle.
- Inherent Government Responsibility. NSFSA recognizes interoperability (ALMR-type radios) as an "inherent government responsibility," especially at State level.

H.11 ALMR Stakeholder Interview: FNSB

Agency Information: (not returned with validation)

Agency Stakeholder: Fairbanks North Star Borough (FNSB)

Agency Address: 3175 Peger Road, Fairbanks, AK

Agency Interviewee: David Gibbs

Agency POC Name/Phone/Email: self, 907/459-1221, dgibbs@co.fairbanks.ak.us

Date Completed: 10/16/2008 by Gerry Corwin/Kevin Jones with Del Smith

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- The biggest issue with compliance is funding ... a problem with an organization upgrading systems, operations, and otherwise incompatible with police, fire, EMS ops in different organizations (statewide as well as own sphere of interest). Military uses different equipment ... primary partner is Fairbanks ... but can bridge on fringe between players (a governance issue). Need to ensure equipment is compatible; ALMR pretty much solves interoperability problem. Not on 6 levels of interoperability so much, local fire doesn't need encryption; concern more for what is not needed (e.g., encryption). Software upgrade on high tech radio is more expensive (parts and maintenance). Repair capability is beyond scope of local organization (borough); outages (for maintenance) are a big deal. But, going back to legacy system would lose dispatch efficiency. ALMR has been the impetus to move forward with DOD, State, and local partners.

b. Narrowband Mandates?

- Still have some conventional equipment non-compatible with ALMR that will be discarded. Old stuff still works (E.F. Johnson radios) but had problems (police department will probably keep their same type radios). Other equipment will be discarded for non-compliance reasons and age (20-25 years old).

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- ALMR brings fabulous interoperability that they didn't have before. But there seems to be limited interoperability with State (e.g., fire, doesn't do law enforcement) even with ALMR. Push back to share Talk Groups ... DOT (public works), Alaska State Troopers, Department of Natural Resources (forest service). FNSB questioned who should be ultimately responsible for interoperability. FNSB believes the State has an inherent responsibility. FNSB sees tremendous value including all levels.
- Re SOPs, direction from State has been weak. This stakeholder has extended sphere of interest to small fire organizations. Agreement with Bureau of Land Management to share BLM Talk Groups (but not vice versa). Regional Users Group is not supported by State for various reasons: (1) educational process, "didn't do it that way in the past", and (2) interoperability is not universally recognized as necessary.

- Re technology, ALMR technology allows for interoperability, but there is a lack of administrative will to do it.
- Re Training and Exercises, There is need for regular training and exercises ... standard training, perhaps not being done now. Interoperability capability exists but has not always used in real world events. Stakeholder was unaware the DVD training was available (for XTS5000 radios as well as E.F. Johnson 5100?); glad to hear about it. It would be a big benefit if available. True radio training has to be user-specific. Use ALMR extensively and ALMR gives ability to properly plan exercises. What is learned in exercises is based on ability to plan communications. Know who users are, outlined on radio. A recent flood in the area received a Presidential Declaration of Disaster. It was a "good feeling" to know they had so much support; not a big incident, so didn't fully use ALMR, but good to know the capability was available. That was not possible on the 2-3 shared channels on the legacy system.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Re User Council and governance, FNSB likes having SMO for system issues and OMO for operations issues ... a huge benefit, else have to hire his own support staff—cost prohibitive.
- Re SLAs, stakeholder supports high level of maintenance (99.999%). Completely dependent on ALMR, and needs highest level of maintenance.
- Re CSPs, stakeholder notes that there is good customer support, but some problems never get solved (like coverage issues). Most "issues" are cost related (e.g., with more funding, more coverage could be added).
- Disadvantage - communication outage would be a big problem because they can't be fixed locally. OMO/SMO help but responsiveness is challenged because of distance from technicians.
- Re Separation Study, stakeholder was familiar with the study, but does not have enough information to comment on.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- Stakeholder still uses legacy system out of necessity and for backup. It is "still an ongoing process." Hoping State will consolidate and pick up the cost.
- FNSB could have spent grant funding for radios on other non-communication priorities but had to show involvement in the ALMR partnership in order to apply acquired funding.
- ALMR does not provide full functioning (e.g., no paging at local level on a trunked system), so must maintain legacy system.
- State gets value including local/municipal and now forgets it.
- DOD is paying for Information Assurance, not a big issue at the borough level. Will those costs be passed onto local governments?

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- None

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Will look at with intention of completing.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Cost of operations of shared system because FNSB doesn't control or influence as he might want (e.g., ALMR currently plans to charge for cached radios). The borough won't have the financial ability to constantly upgrade.
- Not in control of technology; what is service life; no control over replacement equipment and upgrades (i.e., technology creep). Local levels don't need some of the capabilities, such as encryption, but may have to pay for it to meet other users' requirements.
- Interoperability extremely important locally.
- Lack of State support to truly push statewide, i.e., no State Champion.

H.12 ALMR Stakeholder Interview: DEA

Agency Information

Agency Stakeholder: Drug Enforcement Agency (DEA), US Department of Justice

Agency Address: DEA - Seattle Field Division, 400 2nd Street West, Seattle, WA

Agency Interviewee: Fred Smith (telecon) and Adrian J. DeLuna (face-to-face and by telecon)

Agency POC Name/Phone/Email: Adrian J. DeLuna, 206-553-1830, adrian.j.deluna@usdoj.gov

Date Completed: 10/20/2008 face-to-face, 10/24/08 by telecon **by** Gerry Corwin and Kevin Jones with Joe Quickel and Jim Robinson

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- DEA understands that direction is provided by Congress to go with shared systems (governed by NTIA). No issues or problems with supporting and implementing the policy. DEA was part of a DOJ/DOT user test group for a BETA trunking network now known as the Integrated Wireless Network (IWN). IWN is a collaborative effort among Department of Homeland Security (DHS), Department of Justice (DOJ), and the Department of the Treasury.
- The IWN was designed to replace bureau legacy land mobile radio (LMR) systems with a single integrated trunked network. The planning and implementation of the IWN is overseen by the IWN Joint Program Office (JPO), which is comprised of DOJ and DHS representatives. As planned, the IWN was expected to serve over 85,000 law enforcement users within DOJ, DHS and the Treasury. IWN provides a common platform to achieve interoperability and foster coordination with federal, state, local and Canadian law enforcement agencies. Since the IWN trunking system was implemented, there were some problems initially due to funding but most are resolved now. Understands what issues might exist. DEA headquarters is now moving toward the "ALMR" direction in Alaska and a combined DOJ network solution nationwide.

b. Narrowband Mandates?

- In compliance already, through additional funding.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Re Governance, DEA has no problems with ALMR. DEA does get User Council representation and help getting Talk Groups established, for example; no issues.
- Re SOPS, DEA knows system and how to check on system performance; ALMR is similar to the IWN Network. DEA understands that it is probably low on the responder list for an Alaska disaster, etc., but has no problem with that priority.
- Re Technology, the level of technology provided by ALMR is fine; DEA is behind the power curve in Seattle. The DEA legacy network was once able to facilitate

communications between users in Alaska and the DEA communications center which is located in Seattle, WA. The current ALMR network architecture is not set up to provide communication between DEA users in Alaska and the DEA communications center in Seattle. DEA has no issue now with encryption, but expects encryption to be an issue in the future when the rest of DEA migrates to shared networks (Encryption may have to be centralized and controlled from HQ).

- Re Training and Exercises, training is always an issue because of the huge learning curve (slow process) with new users, but training with ALMR is working fine. DEA provides own training internally and gets training from DOJ; in Alaska, DEA will provide training or give direction on ALMR. DEA has 59 radios on ALMR. DEA had not heard of the DVD Training provided by ALMR; ALMR will send a copy for review. Even with DVD-type training, DEA will still need one-on-one training.
- Re Level of Usage, DEA uses ALMR heavily in daily communications. Service is sufficient, "300 times better than before." In response to "busy" signals, DEA has not heard any complaints. DEA would like data on their usage from OMO to determine where they fit in compared to other stakeholders (ALMR will provide). This would help them determine system value compared to their costs.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- Re User Council, it works. DEA needs to try to implement in Seattle. DEA recommends changing out User Council members once in a while to provide additional perspectives. But it is still an effective process as is. DEA offers to act on User Council.
- Re SLA, DEA likes the SLA the way it is (high level of maintenance) and is happy with the coverage and maintenance support. DEA could live with less service, if necessary, but prefers not to.
- Re Customer Support, DEA is getting what it expects. SMO, used as the primary contact focus, is always responsive.
- Re Separation Study, DEA needs governance as provided by ALMR (refer back to other governance comments on shared system participation). Without shared system participation, DEA cannot get funding.
- DEA plans to address ALMR satisfaction levels during a November management conference.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- DEA is happy with the $18/month/subscriber fee for shared maintenance. Their cost is easy to justify. All other maintenance for DEA radios is "farmed out." Previously the legacy system was costing $20 per radio per month without the better ALMR capability. DEA offered to provide records if necessary to substantiate. DEA understands from contact with another division using LMR in Hawaii that fees there are $50/month/radio for a smaller-base user community.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- None

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Interoperability. Interoperability is required; DEA has "ripped out" legacy system and needs ALMR to meet funding requirements. ALMR is meeting all their requirements; in Seattle on IWN, he gets some complaints, but not on ALMR.
- Cost. The system is better now and cheaper than the legacy system. DEA has concerns regarding the separation of ALMR into separate entities. They don't want to "go it alone". This would be much more expensive for them.
- Service. Service and information provided is appreciated (DEA receives regular communications, update information, information on new sites, etc.). DEA has coverage in 95% of area of interest. DEA would like coverage in Dutch Harbor, but there are no current plans to expand in that area. (Prior to ALMR their legacy system had the capability to link their WA office with operations in AK. ALMR doesn't currently do this. DEA would like OMO to research this potential capability.)

H.13 ALMR Stakeholder Interview: ALCOM

Agency Information:

Agency Stakeholder: HQ Alaskan Command J6, Director C4 Systems

Agency Address: 10471 20th Street, Elmendorf AFB AK 99506 – 2001

Agency Interviewee: Colonel Kristine Clifton

Agency POC Name/Phone/Email: self, (907) xxx-xxxx,

Date Completed: 11/24/2008 by Gerry Corwin and Kevin Jones (by email)

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder, related to:

a. Compliance with National Policy?

- Compliance with national goals and objectives encourages at the most robust and mature level single standards based shared systems which is what ALMR is. Various levels are defined in the national goals and objectives, and it is possible to obtain a less mature level that facilitates interoperability. However, it extremely more difficult to achieve an appropriate level of interoperability that meets complete interoperable needs between federal, state and local government agencies and between these agencies and non-government agencies.

b. Narrowband Mandates?

- The narrowband mandate is applicable to either shared or independently operated systems and would have no impact either way.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- Single standards based shared systems provide a more mature and robust level of interoperability over independently owned and operated systems. If possible all government agencies should analyze their ability to joint a standards based shared system approach. Operating an independent system by each government agency leads to many inefficiencies, loss of capability and creates many barriers to creating and sustaining mature robust interoperable communications between government agencies.
- The standards based shared system approach requires a governance structure in order to function. Because it is required, it is easier to obtain support and buy in. It is absolutely necessary to achieve a robust and mature level of interoperability. With independent owned and operated systems, it is less likely and more difficult to establish a governance structure to facilitate interoperability. This is evident by past experience.
- Re SOPs, standards based shared systems as well as independently operated systems require standard operating procedures to ensure use and provide the processes, procedures and protocols for interoperability. SOPs are more readily facilitated in shared systems over independent system. This is mostly true because of the governance structure and the need of the shared system partners to develop and exercise standard processes and procedures to communicate with each other and with

agencies not on the shared infrastructure. It is less likely that if government agencies are operating independent systems, that SOPs would be developed, but is logical to understand that it would be more critical to have them to ensure agencies could talk when necessary.

- Re Technology, ALMR addressed a complete technical approach to ensuring interoperability solutions were provided. That is we addressed fixed infrastructure communications coverage along major highways and major populated areas, in-building and or critical infrastructure communications coverage, interoperability with agencies operating disparate radio systems and other resources such as air to ground and maritime, and a transportable solution. If implementing and operating an independently owned system, the complete technical approach to ensure interoperability is typically not sought. That is agencies look internally to their needs and interoperability and the complete technical solution to achieve that is not addressed.
- Re Training and Exercises, standards based shared systems with the level of governance that they must have to operate more readily facilitates training and exercise between stakeholders. Experience shows that government agencies that own and operate independent LMR systems typically are inward looking and may train and exercise internally, but the level and maturity of training and exercise between government agencies is far less than single shared systems approaches.
- Re Usage, the advantage of a standards based shared system approach is that responders use the same radio, SOPs, protocols and procedures day-to-day that they use during emergency response and therefore they are more familiar with usage and processes. Users operating on independently owned systems that have to use less robust and mature interoperability solutions such as swapping radios are typically unfamiliar with the radio provided by the other agency because they don't use them everyday. Processes, protocols and procedures are also not used as often and responders are typically unfamiliar with them. This typically results in interoperability issues.
- Re Maturity, standards based shared systems are far more robust and mature in their capability and ability to foster and sustain interoperability than that of independently owned systems for all the reasons previously stated.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- ALMR has implemented a very mature governance structure. This governance structure is reinforced by the stake-holders interest in the operation of a common shared infrastructure. There are limitations to meeting a complete governance structure with all stakeholders. The primary limitation lies with local government. Federal and state stakeholders can more readily consolidate their representation under one or two representatives, however local government does not have a suitable structure in which to accomplish this approach. Certainly it is logical to conclude that with the implementation and operation of independent systems that the interest or motivation to engage in a governance body is significantly reduced if not eliminated all together.
- Re User Council Charter, ALMR under its Cooperative Agreement forms and executes a User Council in conjunction with the Operations Management Office which is an adjunct element of the User Council to provide one voice representing the interests of all members. The User Council is the responsible body for regulating and providing operational level oversight of the shared infrastructure. Considering the employment of independent systems by each government agency, it is unlikely that the interest and

motivation to establish and provide representation to a User Council would occur or be seen as required. However, in light of the national framework for interoperability, it would seen prudent to establish a council of users from the federal, state and local government agencies to discuss and deal with interoperability processes, procedures and protocols.

- Re Membership Agreement, ALMR uses this agreement to establish the conditions for each agency's operation on ALMR and to assign agency costs annually. A membership agreement would not be required if the each agency were operating independent systems.
- The Service Level Agreement is a very critical agreement for the proper sustainment of the ALMR systems by multiple government agencies. It provides the quality of service, response times, and standards of maintenance as well as defines what is considered a shared resource on the system and which are designated as an owner agency responsibility. Of concern is that the combined service and response times agreed to in the SLA often exceed a single agencies overall day-to-day requirement. As such that agency may find it legally insufficient to support funding at a higher level set by the SLA. This results in very difficult and convoluted cost share and associated contract implementation and administration. With respect to independently owned systems it is logical to conclude that an SLA would not be required.
- From my perspective the CSP's provide a clear definition of the shared services provided to the cost share stakeholders by the contractor and the government's responsibility with regard to receiving those services. The CSP provides an excellent tool for establishing and maintaining customer expectation.
- The separation study provides a reasonable analysis of the complexities associated with undoing the cooperative ALMR approach. The biggest impact economically would be to both the State of Alaska and DOD should a split be executed. There are many technical issues such as radio frequency spectrum, connectivity, and the need to still provide a level of interoperability to other federal, state and local government agencies. It does not appear feasible or logical to execute the separation scenario. However, it is prudent to understand the impact of such a decision.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- I believe this was a well vetted process, in which each stakeholder had a fair and equitable opportunity to review, inject and decide upon the final cost share approach and method. I do believe that the Army's solution which was ultimately accepted by all stakeholders was not the best for DOD, or the Air Force partner. This solution provided a net savings to the Army, while increasing significantly Air Forces cost share burden. The impact to the DOD as a whole and to the congressional funding provided to meet both services needs is higher than other course of action that were being considered. As such although it is a direct savings to the Department of the Army, it is a cost increase to the Department of the Air Force and overall a cost increase for DOD. Alaskan Command facilitated the process with the Army and Air Force, but did not involve itself in the final decisions. I believe this will be revisited in future cost share negotiations.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- Cooperative approaches required top down buy in and sustained support at all levels. Within government there are changes in key personnel every couple of years or so that create a level of uncertainty and complexity to sustaining a shared system approach.

From mission changes to reinterpretation of requirements or an agencies ability to participate, or fund the sustainment at the agreed upon levels set in Service Level Agreements, there are many other hurdles that must continually be overcome. The national framework is a very good guide, and we have complied with that framework in executing the ALMR shared system approach. However, there are many pitfalls along the path to following the SAFECOM Continuum and national framework, that at the national level they have not thought through nor provided a clear path at the federal, state and local levels to ensure success. We understand that the Office of Emergency Communications will be examine the ALMR partnership more closely and we hope to be able to highlight these pitfalls and complex issues that we have encountered during our cooperative partnership for a shared system approach.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- The Survey has been completed and turned in to the ALMR Joint Project Office.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Funding. Sustained funding by each stakeholder.
- Cost Share. Execution of fair and reasonable cost share approach that meets the best interest of the combined stakeholders.
- Service Level Agreements. Execution and sustainment of a Service Level Agreement and the ability of the stakeholders to meet the agreed upon levels.
- Complex Contracting. Contracting for services such as Operations Management, Systems Management and Maintenance of the ALMR shared system. Very complex contracting solutions are required to facilitate each level of governments contracting rules and requirements, while trying to sustain a single contract service provider for the shared system. It would be very difficult to administer and sustain if each individual stakeholder executed separate and independent contract services to sustain a single shared system.
- Deliberative Planning. The stakeholders willingness to fund and sustain the deliberative planning processes to ensure interoperability; such as updating and execution of tactical interoperability plans, standard operating procedures, interoperability protocols, exercising and training. These elements are as important to the success of the shared system as is sustainment of the maintenance and system management of the shared system. However these are the areas least considered and most often not funded by the stakeholders.

H.14 ALMR Stakeholder Interview: DOA

Agency Information:

Agency Stakeholder: Alaska Department of Administration

Agency Address: PO Box 110200, Juneau, AK 99811-0200 (10th Floor, State Office Bldg)

Agency Interviewee: Deputy Commissioner Rachael Petro, with Carol Beecher, Commissioner Special Assistant

Agency POC Name/Phone/Email: Jim Kohler, ALMR Project Manager/Interim Deputy Director, (907) 723-9686, jim.kohler@alaska.gov

Date Completed: 11/13/2008 **by** Gerry Corwin and Kevin Jones (by telephone)

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?

- SOA must comply with National Policy elements to meet the requirements, minimally, of the Departments of Public Safety and Transportation. In addition, SOA security requirements are no less stringent than the National Policies associated with the current ALMR Project.
- Yes, it is very important to be compliant. E.g., by the nature of the multitude of DOD and non-DOD Federal agencies that manage the various "landscape" within the state, which makes AK more unique than the lower 48 and all the more important to be consistent with National Policy.

b. Narrowband Mandates?

- SOA still faces significant challenges meeting FCC Narrowband Mandated requirements outside of the ALMR System footprint. Within the ALMR footprint, these Narrowband mandates have been met more economically and with greater service levels than would have been possible without the efficiencies and the sharing of frequencies the ALMR consortium model provides.
- Narrowband mandates are very real to SOA. ALMR covers a significant part of the state and with limited frequencies available, they are better shared.
- The biggest driver in LMR operations (not to be lost among other important considerations) is the limited number of frequencies to work with. That underlying lack of availability makes it impossible to build out the SOA system without shared resources like ALMR.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?

- SOA is already seeing value with interoperability. SOA is well positioned for public safety and emergency response.
- Interoperability levels achieved by the ALMR consortium model are not achievable with independent systems.

- First, without a single Astro 25 standards based system, the economies of independent system build out and implementation would generate multiple systems that would, at best, challenge interoperability.
- Second, independent systems could not be built or maintained with the same cost efficiencies generated by the consortium model.
- Third, interoperability and levels of usage would be severely limited by the lack of available frequencies required for multiple independent systems.
- Fourth, issues of governance, SOPs, and training and exercise would be more costly, time consuming, and less functional outside of the consortium model.
- Re Governance, governance is always a challenge in any government model. The User Council is working in unison with all of its member to bring issues and recommendations forward to the EC.
- Re Technology, SOA is achieving high level of economies of scale that could not be achieved separately.
- Re Usage, with ALMR it allows stakeholders to use the system day-to-day as intended; all know how to use it and they are enjoying the benefits.
- Re Maturity, you never know the value of the system until it is needed. ALMR definitely does not have too much capability, it is used fully daily, and even if it had more capability than is needed today, it would be need tomorrow anyway.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- All referenced charters, agreements, and plans referenced above elaborate on the fundamental governance structure of the ALMR Consortium Project set out in the ALMR Cooperative Agreement.
- The Service Level Agreement establishes the defined levels of system capabilities, maintenance and performance requirements that generate ongoing O&M budget and funding decisions.
- The User Council, based on its Charter, provides the assurance to the ALMR Executive Council that all operational decisions for the ALMR Project that impact users are made in the collective best interest of the consortium stakeholder users.
- The Separation Study, even though it underestimates the costs of building and maintaining an independent SOA system, underscores the primary benefits of the ALMR Consortium Project (can't be done any other way):
- Maximum system coverage and usage with limited frequencies.
- Likelihood that SOA could not construct an independent system with its limited frequencies.
- Significant economies of scales for system operation and maintenance unachievable with independent systems.
- The biggest driver in LMR operations (not to be lost among other important considerations) is the limited number of frequencies to work with. That underlying lack of availability makes it impossible to build out the SOA system without shared resources like ALMR. SOA controls 70 frequencies. Just using the current 80 sites, and with some dedicated to DOD support, there would only be one frequency available per site for incoming and outgoing traffic.
- SOA is pleased with all aspects of the governance, specifically mentioning the functioning of the User Council, the membership agreement, and the high reliability of the service level agreements.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- The TCO fully details the independent and shared costs of ALMR system build out and implementation. DOA is familiar with both studies and finds the update more accurate. Benchmarks in the study indicate that ALMR is achieving efficiencies.
- The TCO also provides sufficient benchmark analysis of other systems in the lower-48 states to validate both the build out and the on-going O&M costs of the Alaska ALMR System
- The Cost Sharing Process maximizes the cost efficiencies of on-going O&M for all stakeholders while making the system equally available to all, including local municipal and even NGO first responders.
- DOA thinks the cost sharing is extremely fair. SOA provides core infrastructure. In the long term ALMR goals are achievable. "$18 per radio/month is a bargain."
- DOA again notes that economies of scale are important and are being achieved.
- DOA has seen drafts from DOD of the Motorola Feasibility Study that describes alternatives and costs associated with separating assets to construct independent stakeholder systems. DOA has consistently responded that the estimates for annual ongoing maintenance cost are grossly underestimated. Only the most direct costs are included. According to DOA, Motorola has conceded that the costs they identified are narrowly defined and not the fullest accounting of all management, operations and sustainment costs that stakeholder might incur with a fully operational independent system.
- DOA recognizes its responsibility to maintain a system like ALMR, but also points out that government responsibility extends to all levels of governments. Discussion have been ongoing for years, with ALMR and with many other topics, as to whether the state should be responsible for funding lower levels of government. DOA also notes that it supports the provision in the Membership Agreement that all levels of government/members are to pursue funding for their share of costs. DOA does the best it can with appropriations and priorities, to fund ALMR. EC level discussions have always maintained this topic at the forefront of cost sharing discussions over the last 6-9 months. The SOA position as articulated by DOA is that ultimately, SOA has primary needs for its first responders to maintain a robust interoperability system to exercise primary responsibilities, but municipalities also have similar life, health, and safety responsibilities. This doesn't necessarily mean that State responsibility overlaps or extends to local municipalities.
- Participating in ALMR eliminates narrowband costs because of the shared frequencies and relieves municipalities of additional costs they would incur if they were to "go it alone". SOA understands efficiencies of ALMR to all, municipalities and SOA alike. First responder communication would still be a requirement and cost for local municipalities without ALMR. It is critical to the geographic nature of the state that all emergency responders get technology capability for interoperability, for the benefit of ones in need and for responders for safety and health.
- The State will, through DOA, continue to speak with the legislature in support of ALMR and state funding to collectively cover the cost share as a single cost. But DOA will not represent that local government does not have any cost burden with, or without, ALMR.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- DOA points out the need to address the economic analysis to readers outside the system (legislatures, private citizens, people unfamiliar with the system) and hit the highlights in the Executive Summary.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Submitted.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Limited Frequencies. Without the ALMR Consortium Project, SOA would not be able to build and maintain an independent system due to the limited access of frequencies under SOA control and license. DOA "foot stomped" that neither alternative (continued ALMR or dividing into separate systems) could be implemented without shared frequencies. It is not possible to build an interoperability system with the limited number of frequencies available, thus ALMR, with shared frequencies, provides a distinct advantage.
- Separate LMR Systems. Without the ALMR Consortium Project, SOA would not be able to build and maintain an independent system with even half the robustness of interoperability as gained with the ALMR System. Separate systems are too challenging; it is hard enough as it is with ALMR.
- Economies of Scale. Without the ALMR Consortium Project, SOA would not be able to meet or sustain FCC Narrowband Mandate requirements within the ALMR footprint at any functional levels of service due to limited frequencies and limited funding resources. Everyone needs to understand the impact the cooperative model provides ... to achieve a scale of economy not possible with separate systems. When looking at total costs, a stakeholder can't independently gain dollar efficiencies they derive from ALMR collectively.
- Interoperability. Without the ALMR Consortium Project, SOA would not be able to implement or sustain the level of interoperable coordination across independent systems as is now attainable through the ALMR consortium model. ALMR provides a system that can be used by all stakeholders on a daily basis. When a multi-level response occurs, this benefit eliminates any learning curve or different operating procedures to be implemented during an incident response.
- Inherent Government Responsibility. DOA reiterated the longstanding discussion on inherent government responsibility and sees that responsibility at all levels, but DOA would continue discussion with the legislature about state funding of SOA and municipal cost share.

H.15 ALMR Stakeholder Interview: ATF

Agency Information:

Not Available.

H.16 ALMR Stakeholder Interview: Elmendorf AFB

Agency Information: (not returned with validation)

Agency Stakeholder: 3rd Communications Squadron

Agency Address: Elmendorf AFB, AK 99506-2001

Agency Interviewee: Lt Col Shrunk, Lt Burleson, MSgt Scott Blaine

Agency POC Name/Phone/Email: MSgt Scott Blaine, (907) 552-4066, scott.blaine@ELMENDORF.af.mil

Date Completed: 12/18/2008 by Gerry Corwin and Kevin Jones (by telecon)

Face-to-Face Interview Questions. What are your concerns, if any, with regard to maintaining the existing AMLR on a cost-sharing basis, versus the creation of separate systems for each stakeholder related to:

a. Compliance with National Policy?
- There were no concerns with National Policy compliance. Being a member of ALMR enabled them to meet these requirements.

b. Narrowband Mandates?
- There were no concerns with narrowband mandates. ALMR requirements facilitated compliance.

c. Interoperability (Governance, SOPs, Technology, Training and Exercises, Level of Usage, and Maturity as detailed in the survey)?
- 3rd Comm highlighted that their greatest issue dealt with funding their role in ALMR. Their participation and the cost exceed the AF needs for an interoperable system. They recognized that implementing and maintaining an independent system would likely be less affordable than participating in ALMR so this limits their option of being independent. They also stressed that they feel they have no flexibility or influence to adjust to the higher cost. However, they stated that if they were independent they would likely fund to a lower level of interoperability. Their costs are projected to increase from approximately $120K per year in FY09 to $575K ($100K infrastructure + $475K for the $18/month fee) when subscriber fees are allocated to stakeholders in July 2009.
- 3rd Comm felt their interoperability requirements extended mainly to subscribers working on Elmendorf AFB, such as runway maintenance crews and road clearing personnel in addition to first responders. ALMR exceeds Elmendorf requirements in all areas for base personnel. They haven't studied other options yet, but expect that only a small pool of folks need wide-area interoperability ... perhaps as few as several hundred up to 50% of total radios on ALMR. They said they would probably cut radio count on ALMR to 50% even if service was free. I.e., 3rd Comm suspects that there are alternative ways of getting and maintaining interoperability without everyone having an ALMR radio.
- 3rd Comm recognizes that the costs being allocated to subscribers remains fairly constant regardless of the number of subscribers. However, they only had 49% [Gerry's note says 89%] of their radios keyed last year. They intend to reduce the number of radios they maintain understanding that monthly cost per radio will increase but their overall costs would decrease under the current allocation methodology. This is not their

only rationale for reducing their radio count. They are hoping to offset this new requirement (subscriber costs) by reducing radios because this will also mitigate repair and replacement costs.

- Training and Exercises – This has minimal impact for base personnel. Other than first responders, there is not a whole lot that occurs between outside agencies in terms of education for users. The Elmendorf subscriber base doesn't have a strong need for ALMR on a daily basis.
- Level of Usage – Day to day users would talk to the same folks during an emergency response.
- Maturity – Elmendorf standards are not required to be as high as ALMR.

d. Governance (User Council Charter, Membership Agreement, Service Level Agreement (SLAs), Customer Support Plans (CSPs), and Separation Study as detailed in the survey)?

- The User Council has not really been as effective for AF/DOD needs. ALCOM has run the vote as the representative for 3rd Comm. 3rd Comm feels their respective positions are underrepresented.
- 3rd Comm has not signed the Membership Agreement yet; the paperwork is going up the chain for signature. While the idea and concept are great, there was limited consideration given to the cost of the sustainment tail and this part was not well thought out for the user community.
- 3rd Comm feels the Service Level Agreement with "5 9s" is overkill for DOD; other service areas accept 97% as standard maintenance in operational statistics. Having "5 9s" may be a little deceiving; will it be "5 9s" during a disaster?
- 3rd Comm was becoming more familiar with the Separation Study over the last few weeks. Their position is that a small pool of users exist that need interoperability more than most Elmendorf users. For Elmendorf, the interoperability requirements are probably more excessive than their needs. In addition, Elmendorf requirements for coverage are mostly restricted to the base so the Separation Study cost figures might not accurately reflect true costs when considered in isolation below the DOD levels quoted in the Study. E.g., they note that the Army has mobile requirements (need coverage on the road system), but AF does not. 3rd Comm was not in a position to address costs from a combined Elmendorf/Ft Richardson perspective. They recognize that ALMR solves the interoperability requirement but at a significant cost. In their opinion this is why other states don't operate a system as broad scoped as ALMR. They note that many AF systems do not talk to each other; this also becomes a disconnect for joint-basing as Elmendorf AFB and Ft. Richardson combine.

e. Cost (Total Cost of Ownership) and the Cost Sharing Process?

- Over the last two months, 3rd Comm has been forced to seriously consider the cost of ALMR participation versus what it would cost to operate an independent system. They feel there are alternatives for them to acquire and maintain interoperability without everyone having to carry multiple radios, even during disaster responses. They felt the $18/month per radio was fair but only a small percentage of subscribers used them regularly. This has become a strong consideration in seeking alternatives to reducing their overall costs. 3rd Comm considers ALMR an amazing system (it is great), but it comes at a cost. They felt that if ALCOM could arrange for funding at their level, it might not be an issue.
- 3rd Comm noted that capital development was funded by Congressional earmarks and Federal grants, but now O&M shifts to user organizations.

f. Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.

- Funding and cost covers it all. Alternatives should be investigated to satisfy Elmendorf's limited interoperability needs during an emergency situation. They own systems that have interoperability for less cost. Perhaps an EC review of ALMR could justify and accept less effectiveness.

g. Are you willing for your technical staff to complete the survey by November 1 to obtain sufficient detail for the economic analysis?

- Yes, done.

h. In summary, what do you see as your top 3-5 concerns/issues?

- Funding and Cost. Funding and cost were identified as their sole concern. They have a concern that the User Council is driving a "gold plated" system when one with less sophistication and cost would meet requirements. They would like to see subscriber fees based on the service level required by specific stakeholders as opposed to everyone paying for the same level of service especially when it exceeds requirements (equally splitting the dinner check is easy, but sometimes leaves one diner with a disproportionate burden). 3rd Comm feels the five "9s" maintenance level is "overkill" and almost unattainable. They felt 97% was more realistic for maintenance standards. Their concerns would be mitigated by two changes: reducing ALMR costs by reducing services and having ALCOM defend and fund at its level for DOD.

Attachment I

ALMR Stakeholder Survey Responses

The following series of tables list the answers for each of the stakeholders for the 99 questions on the survey. Since the survey was 20 pages long and 15 surveys were returned, the submitted surveys are not attached, but all of the data is collected in summary tables below.

Table I-1 identifies the stakeholder organization and its abbreviation (code) used in the tables.

Table I-1. Stakeholder Organization and Code

Stakeholder Organization	Code
Alaska Department of Transportation	DOT
Alaska State Troopers	AST
Alaska Department of Public Safety	DPS
Transportation Security Administration (US Department of Homeland Security)	TSA
MOA	MOA
USARAK	USARAK
FPD	FPD
FFD	FFD
NSFSA	NSFSA
FNSB	FNSB
Eielson	Eielson
DEA	DEA
ALCOM	ALCOM
DOA	DOA

The 99 questions in the survey were categorized under the 16 topics shown in Table I-2. Most questions have both a checkbox to select (e.g., Yes or No) and a textbox to make a comment or provide substantiation for the answer. Some questions have no checkbox; they only ask for a comment to answer. Table I-3 through Table I-17 provide the summary results of the 99 questions by the 16 topics for the checkbox portion of the question only (additional tables display the textbox portion of the questions).

Table I-2. Survey Topics and Associated Questions

Survey Topic	Checkbox Questions with Comments	Comment-only Questions
1. Compliance with National Policy?	1-8	9
2. Narrowband Mandates?	10-13	14
3. Interoperability Governance?	15-19	20
4. Interoperability SOPs?	21-28	29
5. Interoperability Technology?	30-34	35
6. Interoperability Training and Exercises?	36-46	47
7. Interoperability Usage?	48-54	55
8. Interoperability Maturity?	56-61	62
9. ALMR User Council Charter?	63-68	69
10. ALMR Service Level Agreement?	70, 72-74	71, 75
11. ALMR Operations & Systems Mgt?	76-79	80
12. ALMR Information Assurance?	82-84	81, 85
13. ALMR Total Ownership Cost	86-88	None
14. ALMR Cost Share Process	89-94	95
15. ALMR Separation Study	96-97	None
16. Any other topics or issues?	None	98
17. Top 3-5 Concerns/Issues?	None	99

I.1 Checkbox Response Summary

Questions that have no checkbox do not appear in Table I-3 through Table I-17. Comments and Substantiations are recorded in the next section. The meaning of the codes in the numerical columns are indicated at the right; a code of 0 indicates that the survey had no checkbox response. (ATF interview and survey were not completed, therefore all answers will be 0.) The Avg column provides the arithmetic average of the non-zero responses as rough point estimate; for example, for Question 4, the Avg is 4.5, indicating an average half way between 4 and 5. (Results in red indicate that questions may have been unclear and answers may not be valid.)

Table I-3. Topic 1, Compliance with National Policy, Questions 1-8 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3	Code 4	Code 5	Code 6
Question 1	N/A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	Yes	No				
Question 2	1.0	1	2	2	1	2	1	1	1	1	0	1	1	1	1	0	2	Meets	Exceeds	Does Not Meet			
Question 3	4.5	6	6	6	6	5	6	5	4	4	0	6	6	6	5	0	6	1	2	3	4	5	Not Eligible
Question 4	3.4	4	5	5	4	4	4	4	4	4	0	5	5	5	5	0	3	1	2	3	4	5	
Question 5	1.0	2	2	2	2	2	2	2	2	2	0	2	2	2	2	0	2	Yes	No				
Question 6	3.0	0	4	4	4	4	4	0	0	0	0	4	4	4	4	0	1	Operations only	Cost only	Both operations and cost	N/A		
Question 7	1.0	1	1	1	1	1	1	2	1	1	0	1	1	1	2	0	1	Yes	No				
Question 8	1.0	1	1	1	1	1	1	1	2	1	0	1	1	1	1	0	2	Yes	No				

Table I-4. Topic 2, Narrowband Mandates, Questions 10-13 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3	Code 4	Code 5
Question 10	4.9	3	5	5	5	5	5	5	5	5	0	5	5	5	5	0	5	1	2	3	4	5
Question 11	1.3	1	2	2	1	1	1	1	3	1	0	1	2	1	1	0	1	Meets	Exceeds	Does Not Meet		
Question 12	1.3	1	1	1	1	2	2	1	2	2	0	1	1	1	1	0	0	Yes	No			
Question 13	1.6	1	1	1	1	2	2	2	2	2	0	2	1	2	1	0	2	Yes	No			

Table I-5. Topic 3, Interoperability Governance, Questions 15-19 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2
Question 15	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	Yes	No
Question 16	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	Yes	No
Question 17	1.1	2	1	1	1	1	1	1	1	1	0	1	1	1	1	0	2	Yes	No
Question 18	1.1	1	1	1	2	1	1	1	1	1	0	1	1	1	1	0	0	Yes	No
Question 19	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	Yes	No

Table I-6. Topic 4, Interoperability SOPs, Questions 21-28 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3	Code 4
Question 21	1.1	1	1	1	1	1	1	1	2	1	0	1	1	1	1	0	1	Yes	No		
Question 22	1.0	1	1	1	2	1	1	1	1	1	0	1	1	1	1	0	2	Meets	Exceeds	Does Not Meet	
Question 23	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	Yes	No		
Question 24	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	Yes	No		
Question 25	1.1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	2	Yes	No		
Question 26	1.3	1	1	1	1	1	1	1	1	1	0	1	3	1	1	0	3	Yes	No	N/A	
Question 27	1.6	2	2	2	2	1	2	1	1	2	0	2	1	2	1	0	0	Yes	No		
Question 28	3.7	4	4	4	4	4	3	3	4	3	0	4	4	4	4	0	3	Decreased	Remained the same	Increased	Increased significantly

Table I-7. Topic 5, Interoperability Technology, Questions 30-34 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3	Code 4
Question 30	1.1	1	1	1	1	1	1	1	1	1	0	1	2	1	1	0	1	Yes	No		
Question 31	1.3	1	1	1	1	1	1	1	1	1	0	1	3	1	1	0	3	Yes/Yes	Yes/No	No/Yes	No/No
Question 32	2.0	2	2	2	2	2	2	2	2	2	0	2	2	2	2	0	2	Yes	No		
Question 33	1.9	2	2	2	2	2	2	2	2	2	0	2	2	2	2	0	1	Yes	No		
Question 34	1.0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0	0	Yes	No		

Table I-8. Topic 6, Interoperability Training and Exercises, Questions 36-46 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3	Code 4
Question 36	1.3	1	2	2	1	1	1	2	2	1	0	1	1	1	1	0	1	Yes	No		
Question 37	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	2	Meets	Exceeds	Does Not Meet	
Question 38	2.0	2	2	2	2	2	2	2	2	2	0	2	2	2	2	0	2	Yes	No		
Question 39	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	Yes	No		
Question 40	1.1	1	1	1	1	1	1	1	1	1	0	1	2	1	1	0	2	Yes, increase in training and exercise	No increase in training and exercises		
Question 41	1.2	1	1	1	1	1	2	1	2	1	0	1	2	1	1	0	0	Increased	Remain the same	Decreased	
Question 42	1.4	1	1	1	0	1	0	0	4	0	0	1	1	1	0	0	0	Yes, for:	Less Cost	Same Cost	Higher Cost
Question 43	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	Yes	No		
Question 44	1.2	2	1	1	1	1	1	1	2	1	0	1	2	1	1	0	0	Yes	No	N/A	
Question 45	1.2	2	1	1	1	1	2	1	1	1	0	1	1	1	1	0	0	Continue	Eliminate		
Question 46	1.1	1	1	1	1	1	1	2	1	1	0	1	1	1	1	0	0	Yes	No		

Table I-9. Topic 7, Interoperability Usage, Questions 10-13 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3	Code 4
Question 48	1.1	1	1	1	1	1	1	1	2	1	0	1	1	1	1	0	1	Yes	No		
Question 49	1.0	1	2	2	1	2	1	1	1	1	0	1	2	1	1	0	2	Meets	Exceeds	Does Not Meet	
Question 50	1.0	1	2	2	1	1	1	1	2	1	0	1	2	1	1	0	2	Meets	Exceeds	Does Not Meet	
Question 51	1.2	1	1	1	1	1	2	2	1	1	0	1	1	1	1	0	2	Yes	No		
Question 52	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	Yes	No		
Question 53	2.0	2	2	2	2	2	2	2	2	2	0	2	2	2	2	0	2	Yes	No		
Question 54	3.8	0	0	0	4	0	3	4	4	0	0	4	3	4	4	0	0	Less	Equal	More	N/A

Table I-10. Topic 8, Interoperability Maturity, Questions 56-61 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3
Question 56	1.0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0	1	Yes	No	
Question 57	1.0	1	2	2	1	1	1	1	1	1	0	1	2	1	1	0	2	Meets	Exceeds	Does Not Meet
Question 58	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	Yes	No	
Question 59	2.0	2	2	2	2	2	2	2	2	2	0	2	2	2	2	0	2	Yes	No	
Question 60	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	Less	Equal	Greater
Question 61	2.9	3	3	3	0	2	3	3	3	3	0	3	3	3	3	0	0	Less	Equal	More

Table I-11. Topic 9, ALMR User Council Charter, Questions 63-68 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3
Question 63	1.0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	Warranted & Beneficial		
Question 64	1.8	2	1	1	2	2	2	2	2	2	0	1	2	2	2	0	2	Yes	No	
Question 65	1.0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	Yes - Warranted; justified and legal		
Question 66	1.2	1	0	0	2	0	0	0	0	0	0	1	1	1	0	0	0	Yes (direct costs)	Warranted	Not Warranted
Question 67	2.0	2	2	2	2	2	2	0	2	2	0	2	2	2	2	0	2	Yes	No	
Question 68	1.1	1	1	1	1	1	1	1	1	1	0	1	2	1	1	0	1	Yes	No	

Table I-12. Topic 10, ALMR Service Level Agreements, Questions 70, 72-74 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3
Question 70	1.0	1	1	1	1	2	1	1	2	1	0	2	2	2	1	0	2	Meets	Exceeds	Does Not Meet
Question 72	1.9	2	2	2	2	2	1	2	2	2	0	2	2	1	2	0	2	Yes	No	
Question 73	1.4	2	2	2	1	2	1	1	1	2	0	1	1	1	1	0	2	Yes	No	
Question 74	1.0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	Yes	No	

Table I-13. Topic 11, ALMR Operations & Systems Mgt, Questions 76-79 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3
Question 76	1.3	2	1	1	1	2	1	1	2	1	0	2	1	1	1	0	1	Yes	No	
Question 77	1.5	1	1	1	1	1	1	1	1	1	0	1	3	1	1	0	2	Meets	Exceeds	Does Not Meet
Question 78	1.3	1	1	1	1	2	1	1	1	1	0	2	1	2	1	0	2	Yes	No	
Question 79	1.3	2	0	0	2	1	1	2	1	0	0	0	1	0	1	0	1	Government	Contract	

Table I-14. Topic 12, ALMR Information Assurance, Questions 82-84 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3	Code 4
Question 82	1.8	1	1	1	0	1	2	2	2	3	0	0	0	4	1	0	0	Mission Critical	Mission Essential	Mission Support	Not State/ Local
Question 83	1.8	0	0	0	0	0	2	0	4	0	0	1	0	1	0	0	1	Less	Equal	More	Not DoD
Question 84	1.0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	Yes	No		

Table I-15. Topic 13, ALMR Total Ownership Cost, Questions 86-88 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2
Question 86	1.1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	2	Yes	No
Question 87	1.7	2	2	2	2	1	2	2	2	2	0	2	1	1	1	0	2	Yes	No
Question 88	1.1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	2	Yes	No

Table I-16. Topic 14, ALMR Cost Share Process, Questions 89-94 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2	Code 3
Question 89	1.1	1	1	1	1	1	1	1	2	1	0	1	1	1	1	0	1	Yes	No	
Question 90	1.3	1	1	1	1	1	1	2	2	2	0	1	1	1	1	0	2	Yes	No	
Question 91	1.5	1	1	1	1	1	1	3	2	2	0	0	1	1	2	0	2	Warranted	Yes	No
Question 92	1.4	1	1	1	1	2	2	2	1	1	0	1	2	1	2	0	1	Yes	No	
Question 93	1.2	2	1	1	1	1	1	1	2	1	0	1	1	1	1	0	0	Yes	No	
Question 94	1.8	2	2	2	2	2	2	1	1	2	0	2	2	2	2	0	1	Yes	No	

Table I-17. Topic 15, ALMR Separation Study, Questions 96-97 Checkbox Answers

Stakeholder	Avg	DOT	AST	DPS	TSA	MOA	USARAK	FPD	FFD	NSFSA	FNSB	Eielson	DEA	ALCOM	DOA	ATF	Elmendorf	Code 1	Code 2
Question 96	1.0	1	1	1	0	1	1	1	1	1	0	0	1	1	1	0	0	Yes	No
Question 97	2.0	2	2	2	2	2	2	2	2	2	0	0	2	2	2	0	0	Yes	No

I.2 Textbox Response Summary

The following series of 99 tables, one for each question, shows the Substantiation/Comments provided by the Stakeholder to the survey (Table I-18 through Table I-116). To minimize the size of the tables, only stakeholders that made comments are included in the table.

Table I-18. Question 1 Substantiations/Comments

Stakeholder	Question 1, Is the ALMR Cooperative in compliance with these policies, goals and objectives?
USARAK	Yes, I believe ALMR as exercised here in Alaska is compliant with thee national policy documents
FNSB	N/A
DEA	The ALMR is in compliance with DEA, narrow-band migration and interoperability mandates
ALCOM	From a self inspection and self analysis standpoint, we believe ALMR to be in compliance. SAFECOM has analysis tools on their web site, and results of that analysis place ALMR in the top 5% of the nation.
ATF	N/A
Elmendorf	The ALMR project management team has made great strides to comply with all of the policies.

Table I-19. Question 2 Substantiations/Comments

Stakeholder	Question 2, How does ALMR compliance with these policies, goals and objectives meet you agency's operational requirements?
AST	ALMR has in many respects provided the impetus for the Alaska State Troopers to ensure its policies and operations are NIMS compliant.
DPS	ALMR has in many respects provided the impetus for the Alaska Department of Public Safety to ensure its policies and operations are becoming NIMS compliant.
USARAK	ALMR has a dual use in providing for ready access to local, state and federal response to HLD events and provides utility in support of the USARAK TRO missions day in and day out.
FNSB	N/A
Eielson	ALMR compliance has significantly increased government agencies ability to interoperate over previously independent approaches that each agency took prior to the ALMR partnership.
DEA	Enable DEA to communicate with federal, state, and local agencies
ALCOM	ALMR compliance has significantly increased government agencies ability to interoperate over previously independent approaches that each agency took prior to the ALMR partnership. Operational assessments completed by third-party organizations such as the Joint Interoperability Test Center (JITC) and Interoperable Communications Technical Assistance Program (ICTAP) have evaluated and documented this fact.
ATF	N/A
Elmendorf	Elmendorf AFB has a minimal requirement for interoperability outside the confines of the installation. Could easily operate as a standalone with a few key users with interoperable ability.

Table I-20. Question 3 Substantiations/Comments

Stakeholder	Question 3, If your agency is eligible to receive federal grants from the Department of Homeland Security, on a scale of 1 (being lowest) to 5 (being highest) has compliance with these policies, goals and objectives improved your ability to receive federal funds?
USARAK	I do not know, but I do not believe DOD is eligible HLD grants.
FPD	I don't believe our agency's applications would be considered/approved if we were not meeting these guidelines.
FNSB	N/A
Eielson	DOD agencies are not eligible for federal grants
ALCOM	DOD agencies are not eligible for federal grants
DOA	DOA has not applied for such funding to date, but compliance would maximize eligibility for funding.
ATF	N/A

Table I-21. Question 4 Substantiations/Comments

Stakeholder	**Question 4, To date, there has not been a manmade or natural disaster of significance that would ultimately demonstrate if compliance with the national policies, goals and objectives by the ALMR approach effectively increases safety and security for response agencies and also provides the appropriate level of interoperability between government agencies. However, on a scale of 1 (being lowest) to 5 (being highest), from your understanding and experience with ALMR how well were the above elements met and the cost of required compliance warranted?**
USARAK	Very well meets intent.
FPD	Exercises such as '07's Northern Edge demonstrate effectiveness
FNSB	N/A
DEA	DEA often takes full advantage of routine interoperability features in the ALMR to communicate with federal, state and local agencies daily.
ALCOM	ALMR executive-level guidance has focused the stakeholders on implementing a shared system, standards based technology, a governance structure that includes senior-level and user-level representation that promotes on-demand, in real time, secure interoperable communications, the development of incident command protocols, tactical interoperable communications plans, standard operating procedures, training and exercises and day-to-day use of communications assets that are also used in emergency response. These actions have all significantly contributed to and demonstrated that ALMR stakeholders share a very high-level maturity in establishing and sustaining interoperable communications. The cost to achieve this maturity is warranted, but the real cost benefit is not realized until an actual real-world event occurs and the evidence of lives saved, safety of operation, and the ability to communicate and interoperate are provided to meet mission critical requirements.
DOA	ALMR has been developed at full Level 6 standards of interoperability. Without the consortium approach this level of interoperability would not have been possible economically or functionally.
ATF	N/A
Elmendorf	The elements are met but the cost has the potential to be much greater that the compliance is worth to Elmendorf AFB.

Table I-22. Question 5 Substantiations/Comments

Stakeholder	**Question 5, As a major stakeholder in ALMR, based upon your understanding of the national policies, goals and objectives, would it be better operationally for the federal, state and local government agencies (ALMR stakeholders) to operate separate independent land mobile radio (LMR) systems?**
DOT	The level of cooperation and support is at the highest it has ever been. We have regular meetings, which helps us to better understand the roles we play and our overall mission. It is easier to understand the reason for the request when you can discuss it.
AST	From an operational perspective, that would only seem to diminish our ability to interoperate.
DPS	From an operational perspective, that would only seem to diminish our ability to interoperate. My experience in this department dates back over 23 years. In my early years as a trooper we weren't able to communicate with other state agencies (DOT&PF), much less many other emergency response agencies. Reversion to an "everyone has their own system" approach would be taking interoperability a number of steps backward.
USARAK	It would be difficult (or impossible) to meet the this policy intent as separate agencies
FNSB	N/A

Stakeholder	**Question 5, As a major stakeholder in ALMR, based upon your understanding of the national policies, goals and objectives, would it be better operationally for the federal, state and local government agencies (ALMR stakeholders) to operate separate independent land mobile radio (LMR) systems?**
Eielson	Operationally, the capabilities provided by the many under a single shared system far exceed the independent capability that each government agency could bring to bear on a incident response. It should be noted that regardless of the technology, and the independent or shared system approach, unless policies, protocols, and standard procedures are in place, all of the above would fail. It is evident in our experience that the standards based shared technology, when operated under agreed upon and exercised policies, protocols and standard procedures exceeds separate independent systems operated under the same conditions.
DEA	It would be too expensive; coverage and interoperability would be limited.
ALCOM	Operationally, the capabilities provided by the many under a single shared system far exceed the independent capability that each government agency could bring to bear on a incident response. It should be noted that regardless of the technology, and the independent or shared system approach, unless policies, protocols, and standard procedures are in place, all of the above would fail. It is evident, in our experience that the standards-based, shared technology, when operated under agreed upon and exercised policies, protocols and standard procedures, exceeds separate independent systems operated under the same conditions.
ATF	N/A
Elmendorf	Operationally the shared system is the best method to achieve true interoperability.

Table I-23. Question 6 Substantiations/Comments

Stakeholder	**Question 6, If your answer to question 5 is Yes, is this position based on:**
USARAK	I cannot conceive of separate networks being either operationally more effective or costing any agency any less then what we currently have.
FNSB	N/A
ATF	N/A
Elmendorf	As stated in answer 2 Elmendorf only needs a few key agencies on the shared network.

Table I-24. Question 7 Substantiations/Comments

Stakeholder	**Question 7, Based on your understanding of the national policies, goals and objectives discussed above, do you agree that government agencies (ALMR stakeholders) incur increased costs for compliance with the national policies, goals and objectives for preparedness and the ability to interoperate between government agencies?**
DOT	The national goals drive including municipal emergency services. When you operate a shared system with the number of users in Alaska, there will always be small volunteer emergency service organizations which have no income source to pay operating service fees. These businesses can only participate if the larger organizations pay their share of the operating costs.
USARAK	I would imagine compliance to any stated standard would limit flexibility and therefore would ultimately cost more.
FPD	Difficult to answer this question the way it's worded. While I understand that costs will be incurred, it's a matter of debate as to "how far down" these costs should be pushed- i.e. umbrella/oversight agencies vs. individual user-agencies.
NSFSA	The cost to individual users is higher in the purchase of the subscriber units that are able to work on the ALMR system. An individual agency using another system may have the ability to purchase a less costly unit.
FNSB	N/A

Stakeholder	**Question 7, Based on your understanding of the national policies, goals and objectives discussed above, do you agree that government agencies (ALMR stakeholders) incur increased costs for compliance with the national policies, goals and objectives for preparedness and the ability to interoperate between government agencies?**
Eielson	This is substantiated and evidenced through the Total Cost of Ownership (TCO) studies completed on the legacy systems the stakeholders operated before ALMR and the TCO that examined the O&M cost of ALMR. Government agencies that procured, operated and maintained independent systems that do not comply with the national policies, goals and objectives stated above did not incur tangible and intangible costs associated with; 1. having to procure Public Safety standards based technology like APCO 25 subscribers and infrastructure, 2. having to implement a more robust and comprehensive technology solution to meet first responder communications requirements, 3. fund the development, administration and participation in a governance model, 4. expend resources to develop, coordinate, implement and sustain policies, plans, protocols and standard operating procedures that is applied across all government agencies, 5. the cost of training and exercises that reach across multi agency, multi jurisdictional boundaries, 6. the cost of shared system management and operations management services and 6. the numerous other additional costs that are inherent in establishing and sustaining shared system partnerships (i.e., added cost of legal resources, administrative, engineering, operations, contract administration, quality control and quality assurance, resource management, spectrum management, project management; and stakeholder management)
DEA	However, in the long run it is worth the cost.
ALCOM	This is substantiated and evidenced through the first Total Cost of Ownership (TCO) studies completed on the legacy systems the stakeholders operated before ALMR, and the second TCO that examined the O&M cost of ALMR. Government agencies that procured, operated, and maintained independent systems that do not comply with the national policies, goals, and objectives stated above did not incur tangible and intangible costs associated with: 1) having to procure Public Safety, standards-based technology like APCO 25 subscribers and infrastructure; 2) having to implement a more robust and comprehensive technology solution to meet first responder communications requirements; 3) funding the development, administration and participation in a governance model; 4) expending resources to develop, coordinate, implement and sustain policies, plans, protocols and standard operating procedures that is applied across all government agencies; 5) the cost of training and exercises that reach across multi-agency, multi-jurisdictional boundaries; 6) the cost of shared system management and operations management services; and 6) the numerous other additional costs that are inherent in establishing and sustaining shared system partnerships (i.e. added cost of legal resources, administrative, engineering, operations, contract administration, quality control and quality assurance, resource management, spectrum management, project management, and stakeholder management).
DOA	SOA costs would be substantially the same, however local municipal costs would be higher if it were not for the consortium approach to ALMR.
ATF	N/A
Elmendorf	The primary stakeholders will maintain infrastructure as well as the proposed cost share. Small entities with little or no infrastructure are getting the best bang for their buck.

Table I-25. Question 8 Substantiations/Comments

Stakeholder	**Question 8, Do you agree that these costs are warranted and should be considered as an inherent requirement for government agencies and part of the cost of daily operations?**
AST	It is clear that the likely costs associated with an inability to communicate with fellow emergency responders is greater than the costs of fielding and maintaining an interoperable system.

Stakeholder	Question 8, Do you agree that these costs are warranted and should be considered as an inherent requirement for government agencies and part of the cost of daily operations?
DPS	It is clear that the likely costs associated with an inability to communicate with fellow emergency responders is greater than the costs of fielding and maintaining an interoperable system. We have also found that new employees have an expectation that they will work in an environment where modern technologies and procedures are in use. The opportunity cost to DPS from a recruitment perspective alone could be significant.
USARAK	Yes, any standard that can be achieved to enhance interoperability for short notice events would be warranted.
FFD	higher level gov. bigger cost share.
NSFSA	The benefits of interoperability offset to a great degree the costs involved with the ALMR system however these costs can and sometimes are to much to bear for smaller agencies without assistance either in the form of grants or other help.
FNSB	N/A
DEA	Do the complexities with network architecture and infrastructure, network failures will need to be addressed and upgrades will need to take place.
ALCOM	The model that the national framework for interoperable communications established is a validated model. If government agencies have in their mission the requirement to provide incident command and tactical response mutual aid and emergency response, then the cost of achieving and sustaining the appropriate level of response capability in compliance with the national framework is an inherent responsibility.
DOA	Fundamental requirements for life, health, and safety require striving for maximum standards with available funding resources.
ATF	N/A
Elmendorf	Our installation daily operations do not require the ALMR system and could be accomplished with a standalone system.

Table I-26. Question 9 Substantiations/Comments

Stakeholder	Question 9, What is the overall economic impact to your organization resulting from compliance with these policies, goals and objectives?
DOT	At the end of the deployment process, although not complete, DOT&PF will have over $5.3M invested in subscriber equipment. Of the subscriber cost, 80% is from FHWA and 20% are from State funds. Our operating cost without carrying smaller organization will be about $281K per year. This is about $20K more per year than for our old wide band equipment and not all the wide band equipment has been converted.
AST	That has yet to be seen.
DPS	Unknown.
TSA	$6665.00 Per year
MOA	40% increase in LMR system replacement cost
USARAK	I don't believe there is any economic impact to our organization based on compliance too these policies, goals and objectives.
FPD	This can't be determined until such cost-sharing agreements are forecast and finalized.
FFD	possible higher operating costs
NSFSA	Increase cost of maintenance and in the future replacement of subscriber units. In addition the proposed cost share allocation may be cost prohibitive.
FNSB	N/A

Stakeholder	Question 9, What is the overall economic impact to your organization resulting from compliance with these policies, goals and objectives?
Eielson	The overall impact to the Department of Defense agencies is a marked increase in the cost of procuring, implementing, operating and maintaining land mobile radio systems. This cost is both tangible and intangible. To sustain a level of compliance that is to the far right of the SAFECOM Continuum is a substantial impact when weighed with all of the other immediate and ever present missions and requirements that we face. Because we are preparing for an incident in the future, and the decrease in communications interoperability perceived need when there is not an incident being responded to daily, obtaining and sustaining funding to ensure a constant level of compliance is very difficult. The lack of a definitive order and directive that mandates a specified level of compliance with the national framework for interoperability requires leaders to make decision about funding sustainment of compliance in relationship to resources and services that are directed missions. This is often not possible in today's financially constrained environment.
DEA	Because we are a fairly large organization with multiple land-mobile radio networks nationwide. Due to various factors, our agency has struggled to effectively implement a cost effective nation-wide LMR network that are in compliance with national policies and agency objectives.
ALCOM	The overall impact to the Department of Defense agencies is a marked increase in the cost of procuring, implementing, operating, and maintaining land mobile radio systems. This cost is both tangible and intangible. To sustain a level of compliance that is to the far right of the SAFECOM Continuum is a substantial impact when weighed with all of the other immediate and ever present missions and requirements that we face. When preparing for an unexpected incident in the future, and the lack of needed communications interoperability when there is not an incident to respond to, obtaining and sustaining funding to ensure a constant level of compliance is very difficult. The lack of a definitive order and directive that mandates a specified level of compliance with the national framework for interoperability, requires leaders to make decision about funding sustainment and compliance in relationship to resources and services that are mission directed. This is often not possible in today's financially constrained environment.
DOA	The ALMR consortium model has allowed maximum standards compliance with the economic efficiencies generated by sharing costs.
ATF	N/A
Elmendorf	The potential that our total annual cost would more than pay for a complete standalone system with two years.

Table I-27. Question 10 Substantiations/Comments

Stakeholder	Question 10, On a scale of 1 (being lowest) to 5 (being highest), is the ALMR Cooperative currently in compliance with this mandate?
DOT	Because the State of Alaska has not been able to secure funds to deploy repeaters to remote Alaska, only 52 of the 79 DOT&PF Maintenance Stations have converted to narrow band and only 46 to ALMR. There are other agencies with similar status.
USARAK	Yes, too the best of my knowledge
FNSB	N/A
Eielson	All government agencies operating on the ALMR shared system are operating narrowband compliant equipment.
DEA	The ALMR is in compliance with federal mandates as they relate to DEA migration to narrow-band.
ALCOM	All government agencies operating on the ALMR shared system are operating narrowband-compliant equipment.
ATF	N/A

Stakeholder	Question 10, On a scale of 1 (being lowest) to 5 (being highest), is the ALMR Cooperative currently in compliance with this mandate?
Elmendorf	The entire system is a narrowband digital system.

Table I-28. Question 11 Substantiations/Comments

Stakeholder	Question 11, How does ALMR compliance with this mandate meet your operational requirements?
USARAK	Reduces potential interference and improves quality of service.
FFD	Will maintain conventional also
FNSB	N/A
Eielson	In reality, there is no impact to DOD operational requirements by complying with or not complying with narrowband mandates.
DEA	ALMR exceeds National and DEA mandates.
ALCOM	In reality, there is no impact to DOD operational requirements by complying with, or not complying with, narrowband mandates.
DOA	Partially meets SOA operational requirements. SOA still has significant requirement to meets operational needs outside of the ALMR System footprint.
ATF	N/A
Elmendorf	Elmendorf AFB would have had to migrate to narrowband regardless of the ALMR cooperative. The costs and equipment would likely have been similar to what we have presently.

Table I-29. Question 12 Substantiations/Comments

Stakeholder	Question 12, Considering the applicable narrowband mandate, and the economic impact of making the required transition, did national policies, goals and objectives for preparedness and interoperability influence your decision to participate in the ALMR shared system as opposed to replacing your legacy system with an independent narrowband-compliant LMR system?
DOT	Participation provided the ability to acquire FHWA funding, which allowed conversion of about 66% of our stations. All of the larger stations have been converted.
AST	This process has been underway for many years and those responsible for AST's initial involvement in ALMR have long since moved along. Nevertheless, conversations I've had with some of those individuals suggest that interoperability was a factor in the decision to not buy an independent system.
DPS	This process has been underway for many years and those responsible for DPS' initial involvement in ALMR have long since moved along. Nevertheless, having been part of this agency for many years, I am aware that interoperability has always been a top objective of DPS' involvement with ALMR.
NSFSA	In our case our current system is compliant and is still functioning as a backup to the ALMR system.
FNSB	N/A

Stakeholder	**Question 12, Considering the applicable narrowband mandate, and the economic impact of making the required transition, did national policies, goals and objectives for preparedness and interoperability influence your decision to participate in the ALMR shared system as opposed to replacing your legacy system with an independent narrowband-compliant LMR system?**
Eielson	DOD participation in ALMR was driven first by the narrowband mandate that required and mandated the replacement of wideband equipment with narrowband equipment, and then by the mission requirements associated with Defense Support to Civil Authority roles and service component day-to-day mission support communications needs that extended beyond the fence of their installations and along specified roadways. These main drivers caused DOD to partner with other federal, state and local stakeholders and form a partnership to implement and operate a single shared system infrastructure. Other drivers included but are not limited too: DOD's capital Investment Plan on Narrowbanding required the service components in the replacement of their wideband equipment, to consider how they would employ technology solutions that would facilitate communications interoperability between and among government agencies at the federal, state and local levels. This was followed by policy through the Office of the Secretary of Defense that mandated the procurement of only APCO Project 25 public safety standard based equipment by all DOD agencies for all missions/uses.
ALCOM	DOD participation in ALMR was driven first by the narrowband mandate that required the replacement of wideband equipment with narrowband equipment, and then again by the mission requirements associated with Defense Support to Civil Authority roles and service components' day-to-day mission support communications needs that extended beyond the fence of their installations and along specified roadways. These main drivers caused DOD to partner with other federal, state and local stakeholders and form a partnership to implement and operate a single shared system infrastructure. Other drivers included but are not limited too: DOD's Capital Investment Plan on Narrow banding which required the service components, in the replacement of their wideband equipment, to consider how they would employ technology solutions that would facilitate communications interoperability between and among government agencies at the federal, state and local levels. This was followed by policy through the Office of the Secretary of Defense that mandated the procurement of only APCO Project 25 Public Safety, standards-based equipment by all DOD agencies for all missions/uses.
DOA	The ALMR shared system maximizes satisfaction of the narrowband mandate within the system's footprint.
ATF	N/A
Elmendorf	I was not here at the time this decision was made and do not have background on the deciding factors. I do however have the distinct feeling that the Alaskan Command had a great hand in the decision process at the time.

Table I-30. Question 13 Substantiations/Comments

Stakeholder	**Question 13, As an alternative, would moving from the shared ALMR System to an independent operation at this point by your agency have any impact on your agency's compliance with the applicable narrowband mandate?**
DOT	The department plans to continue conversion if the Federal partners and the State continue the trunked repeater deployment. Without a partnership, there would not be any further deployment. The department hopes the natural gas pipeline is completed, which should provide trunked repeaters to support an additional six stations on the Dalton Highway.
AST	Our understanding is that with the way frequency spectrum has been fully integrated (by way of FCC waivers) between the State of Alaska and DOD, there would be huge impacts associated with such a move toward an independent system.

Stakeholder	**Question 13, As an alternative, would moving from the shared ALMR System to an independent operation at this point by your agency have any impact on your agency's compliance with the applicable narrowband mandate?**
DPS	Our understanding is that with the way frequency spectrum has been fully integrated (by way of FCC waivers) between the State of Alaska and DOD, there would be huge impacts associated with any move toward an independent system. Those impacts would be technical, administrative, programmatic, and financial.
USARAK	Given previous investment, it is unlikely that we'd change radios at this point.
FPD	However, such a move to an "independent system" would not be logistically or financially feasible.
NSFSA	Again we have a compliant system. Out benefit for being on ALMR is the interoperability.
FNSB	N/A
Eielson	No, because of the unique spectrum sharing agreement that exists for ALMR, would require DOD agencies to procure new infrastructure. The procurement of that new equipment would be narrowband compliant.
DEA	Migrating away from ALMR would have a detrimental impact on our agency's ability to comply with federal mandates.
ALCOM	No, because of the unique spectrum sharing agreement that exists for ALMR, would require DOD agencies to procure new infrastructure. The procurement of that new equipment would be narrowband compliant.
DOA	An independent operation would be difficult if not impossible to achieve with any full functionally operability due to the insufficient access to required frequencies and the limitations of funding.
ATF	N/A
Elmendorf	All equipment is narrowband compliant.

Table I-31. Question 14 Substantiations/Comments

Stakeholder	**Question 14, What has been/is the overall economic impact to your organization resulting from compliance with this mandate?**
DOT	There are still unknowns when we look at the final conversion for the remote locations of western and southeast Alaska. State ALMR project manager Jim Kohler indicated that the buildout is over for the trunked repeater network. If DOT&PF has to fund repeaters and subscriber equipment, the cost per station could be $600K using the cheaper option of narrow band non-trunked (non- P-25) equipment. There are 27 stations with 8 to 18 radios, each which require conversion. The total cost would be $2.1M.
AST	To the Alaska State Troopers and Alaska Wildlife Troopers (sister divisions within the Alaska Department of Public Safety), it has exceeded $3.5 million.
DPS	To the Department of Public Safety, it has exceeded $3.5 million.
TSA	$6665.00 per year
MOA	LMR systems were due for replacement so compliance has had minimal cost impact
USARAK	No known direct economic impact to our organization based on becoming compliant with this mandate.
FPD	Once again, this question is extremely difficult to answer as worded. The economic impact of having to replace an entire system has been extensive. However, the majority of the funding to do so has been provided through DHS grants. One could argue that, if not for such a mandate, this DHS funding could've been used for other purposes which would have been beneficial to our organization. Conversely, one could argue that this funding was only made available to facilitate these mandates.
FFD	Increased cost
NSFSA	See #7
FNSB	N/A

Stakeholder	Question 14, What has been/is the overall economic impact to your organization resulting from compliance with this mandate?
Eielson	The DOD agencies were required to procure and implement new infrastructure and subscriber equipment that is narrowband compliant. To do so required a substantial capital investment to replace just the legacy footprint that existed. Added to that the mission requirement to be able to interoperate with federal, state and local government agencies in Defense Support to Civil Authority roles, comply with national objectives, the service components extended wide area communications requirement, and the mandated requirement to procure Project 25 standards based technology resulted in a very significant capital and sustaining O&M cost.
DEA	Sharing resources makes the implementation of trunking technology cost effective for our agency.
ALCOM	The DOD agencies were required to procure and implement new infrastructure and subscriber equipment that is narrowband compliant. To do so required a substantial capital investment to replace just the legacy footprint that existed. Added to that the mission requirement, was the need to be able to interoperate with federal, state and local government agencies in Defense Support to Civil Authority roles, comply with national objectives, service components extended wide-area communications requirements, and the mandated requirement to procure Project 25, standards-based technology which resulted in a very significant capital investment and the on-going sustainment of O&M costs.
DOA	See #13 above.
ATF	N/A
Elmendorf	Unknown

Table I-32. Question 15 Substantiations/Comments

Stakeholder	Question 15, Do you agree that the ALMR Cooperative is operating a governance structure at the highest level of governance defined on the SAFECOM Interoperability Continuum? If not, please describe at what continuum level you place the ALMR EC.
FNSB	N/A
ALCOM	Although the ALMR Executive Council concerns itself with ALMR stakeholders, as opposed to a more general body focus, it does conform to national guidance in that it is inclusive of all government agencies (federal, state and local) , and it addresses interoperable communications between stakeholders, and between stakeholders and agencies (government and non-governmental organizations) that it's stakeholders must interoperate with. The SIEC function of the EC is primarily state and local government focused. However, DOD and other stakeholders have a liaison relationship in order to provide voice on matters addressed by the SIEC. The SIEC has not functioned as intended by the FCC and lacks formal and structural commitment of the key stakeholders that should drive its purpose. Note: SIECs are established to provide oversight of Public Safety radio frequency spectrum resources with in a state or region.
ATF	N/A
Elmendorf	Unknown

Table I-33. Question 16 Substantiations/Comments

Stakeholder	Question 16, Does the ALMR governance model provide the required level of representation for your agency?
USARAK	Yes, DOD has required level of representation
FNSB	N/A

Stakeholder	Question 16, Does the ALMR governance model provide the required level of representation for your agency?
Eielson	The EC is comprised of co chairs representing the major stakeholders. For DOD the Alaskan Command Directory for Command, Control, Communications and Computer Systems has been appointed by the Commander Alaskan Command to provide executive level representation for the services.
DEA	Currently, yes. However, seats on the non-federal users counsel should rotate on a yearly basis to ensure that all federal stakeholders are represented fairly.
ALCOM	The EC is comprised of co-chairs representing the major stakeholders. For DOD the Alaskan Command Director for Command, Control, Communications and Computer Systems has been appointed by the Commander Alaskan Command to provide executive level representation for the services. In that role, the DOD executive representative ensures the service components concerns and equities are voiced and protected.
ATF	N/A
Elmendorf	I feel that it does though the ALCOM project management office has, for the most part, made most of the decisions for the DOD agencies.

Table I-34. Question 17 Substantiations/Comments

Stakeholder	Question 17, If ALMR was not operated as a single shared system infrastructure between federal, state and local agencies, would the need for an EC/SIEC or other like governance structure be required?
USARAK	There would still exist a need to participate within a governance structure that would in order to coordinate and sustain interoperable comms between all stakeholders.
NSFSA	If it were only a State system you would still need a governance body to represent the different partners.
FNSB	N/A
Eielson	If the government agencies are to comply with the national framework for interoperability and they are to address each of the five focus areas identified on the SAFECOM Continuum, a governance structure would still be required to foster cooperation and coordinate and establish at the executive level policy, goals and objectives by the stakeholders to establish and sustain interoperable communications between government agencies to include non-governmental agencies.
ALCOM	If the government agencies are to comply with the national framework for interoperability, and they are to address each of the five focus areas identified on the SAFECOM Continuum, a governance structure would still be required to foster cooperation and coordinate and establish executive level policy, goals and objectives by the stakeholders which establish and sustain interoperable communications between government agencies to include non-governmental agencies.
DOA	Even greater challenges would exist to coordinate multiple system operations, protocol, and frequency coordination.
ATF	N/A
Elmendorf	If separate systems are maintained the User Council representing the agencies managing those systems would be able to accomplish the task of determining interoperability procedures and guidelines between said agencies.

Table I-35. Question 18 Substantiations/Comments

Stakeholder	Question 18, Is the cost and function of operating an EC/SIEC necessary to the overall success of the ALMR approach?
AST	Yes. Without a governance structure that can address "big picture" strategy AND spectrum sharing issues, we'd have problems.
USARAK	Yes, a governance structure still need exist for the reasons list above

Stakeholder	Question 18, Is the cost and function of operating an EC/SIEC necessary to the overall success of the ALMR approach?
FNSB	N/A
Eielson	Single shared standard system implementation. Operation and maintenance require an executive level governing body to provide guidance and to facilitate and sustain the agreements that must be put in place to successfully implement, operate and maintain a shared system infrastructure cooperative approach.
DEA	Due to the network and INTEROP complexities, a viable EC/SIEC needs to be in place.
ALCOM	Single, shared, standard system implementation, and operation and maintenance require an executive-level governing body to provide guidance and to facilitate and sustain the agreements that must be put in place to successfully implement, operate and maintain a shared system infrastructure cooperative approach.
ATF	N/A
Elmendorf	Cost of the EC/SIEC is unknown so I cannot make an informed decision.

Table I-36. Question 19 Substantiations/Comments

Stakeholder	Question 19, Should this cost and function be considered a continuing inherent fundamental duty of government to facilitate preparedness and interoperability among government agencies?
USARAK	Yes, to meet the intent of the national policy
FNSB	N/A
Eielson	Government agencies have the responsibility to perform specified missions during disasters local, regional, statewide and nationally when called upon to do so by the leadership at those levels. The lack of deliberative and proactive collaboration and planning to ensure interoperable communications is mature, available and sustained to meet emergency response missions has been a leading factor in communications interoperability failure in past history. Based upon this fact, DHS has developed a framework for establishing and conducting a governance that will foster mature interoperable communications among government agencies and non-government agencies alike. The issue that remains is that this function is not addressed as a core discipline for most government agencies and therefore is not typically funded and supported as is directed roles and missions.
ALCOM	Government agencies have the responsibility to perform specified missions during disasters (local, regional, statewide and national) when called upon to do so by the leadership at those levels. The lack of deliberative and proactive collaboration and planning to ensure interoperable communications are mature, available and sustained to meet emergency response missions has been a leading factor in communications interoperability failures in past history. Based upon this fact, DHS has developed a framework for establishing and conducting a governance that will foster mature interoperable communications among government agencies and non-government agencies alike. The issue that remains is that this function is not addressed as a core discipline for most government agencies and therefore, is not typically funded and supported as are directed roles and missions.
DOA	This is the case given the unique array of users and agencies across Alaska.
ATF	N/A
Elmendorf	Unknown, see answer 18.

Table I-37. Question 20 Substantiations/Comments

Stakeholder	Question 20, What is the overall economic impact to your organization resulting from achieving and sustaining this level of governance?
DOT	The DOT&PF Commissioner is a member of the ALMR Executive Council and participates in the governance process requiring travel and time expenses.

Stakeholder	Question 20, What is the overall economic impact to your organization resulting from achieving and sustaining this level of governance?
AST	That has yet to be seen. I don't know how to carve out the portion of the cost of ALMR that is associated with governance.
DPS	Unknown.
TSA	None
MOA	minimal
USARAK	Minimal impact
FPD	Negligible at this time; the benefit that we get from having an assigned representative on the user-council outweighs any "lost productivity" due to the member's periodic participation.
FFD	Minor
NSFSA	At this point none however the proposed cost sharing may have an impact in the future.
FNSB	N/A
Eielson	The actual overall economic impact has not been quantified in total. The latest TCO has to some extent attempted to identify the costs associated with government personnel and their associated time spent in performing these tasks. This does not however reflect a scientific fact based position but rather an estimate of time spent. There is a cost associated with establishing and operating governance structures. There is not a validated specified task directed that covers this work load, yet it must be done.
DEA	There has been very little impact on the DEA -Seattle Field Division.
ALCOM	The actual overall economic impact has not been quantified in total. The latest TCO has, to some extent, attempted to identify the costs associated with government personnel and their associated time spent in performing these tasks. This does not however reflect a scientific, fact-based position, but rather an estimate of time spent. There is a cost associated with establishing and operating governance structures. There is not a validated, directed, specified task that covers this work load, yet it must be done.
DOA	The shared costs and consortium governance model of the ALMR Project allows maximum efficiency of limited funding resources across all stakeholders.
ATF	N/A
Elmendorf	Unknown, see answer 18

Table I-38. Question 21 Substantiations/Comments

Stakeholder	Question 21, Do you agree that the ALMR Cooperative is operating at the most mature level on the continuum with relation to initiation and use of SOPs?
DOT	Initiation yes, use no. There have been rare instances where decisions were made by the Office of Management and Operations without consulting either the Executive Council or the User Council. In one case, a small volunteer user was given temporary access to the system without prior approval. In another case, repeater resources were re-allocated without prior approval to change the build out plan. In general, the Standard Operating Procedures are followed.
USARAK	The level of cooperation fostered with ALMR is very mature in that stakeholders willingly support standardization of use
FFD	Still developing
FNSB	N/A

Stakeholder	Question 21, Do you agree that the ALMR Cooperative is operating at the most mature level on the continuum with relation to initiation and use of SOPs?
Eielson	Although this is a very subjective measurement, because there is not a formal measurement tool or specified guidance that the SOPs implemented can be prepared to, ALMR has established a robust level of policies, standard protocols and procedures that far exceed what was in place prior to ALMR. There are robust local, regional and statewide Incident Command NIMS based standard protocols and procedures that have been developed, initiated and used by ALMR stakeholders. See the Operations Management Office for a listing of these standard protocols and procedures.
ALCOM	Although this is a very subjective measurement, because there is not a formal measurement tool or specified guidance that the SOPs implemented can be prepared to, ALMR has established a robust level of policies, standard protocols and procedures that far exceed what was in place prior. There are robust local, regional and statewide Incident Command, NIMS-based standard protocols and procedures that have been developed, initiated and used by ALMR stakeholders. See the Operations Management Office for a listing of these standard protocols and procedures.
ATF	N/A
Elmendorf	Statewide and regional guidance is available.

Table I-39. Question 22 Substantiations/Comments

Stakeholder	Question 22, How does this level of NIMS integration into the SOPs meet your operational requirements?
USARAK	Necessary for full interoperability
FNSB	N/A
Eielson	From the ALMR tactical first responder perspective, these standard protocols and procedures are effective and have been proven to work and facilitate secure, on-demand and in real time interoperable communications. Experience has shown where these standard protocols and procedures were not used, despite the technology, communications interoperability failed or was less that adequate.
ALCOM	From the ALMR tactical first responder perspective, these standard protocols and procedures are effective and have been proven to work and facilitate secure, on-demand and in-real-time interoperable communications. Experience has shown where these standard protocols and procedures were not used, communications interoperability failed or was less that adequate despite the technology.
ATF	N/A
Elmendorf	Requirement to interoperate with outside agencies on a daily operation basis is virtually non-existent.

Table I-40. Question 23 Substantiations/Comments

Stakeholder	Question 23, To date, there have been no manmade or natural disasters of significance that would ultimately demonstrate if the development and execution of these SOPs by the ALMR approach effectively increases safety and security for response agencies and also facilitates a high level of communications interoperability between government agencies. However, would you say that from your understanding and experience with ALMR, the above elements have been met and the cost of implementing and maintaining these NIMS-integrated SOPs is required and warranted?
AST	We know it does no good to have the technology available to troopers and emergency responders if policies don't exist to control its usage during a critical event.
DPS	We know it does no good to have the technology available to troopers and emergency responders if policies don't exist to control its usage during a critical event.
USARAK	Standard practices and procedures are essential to ready interoperability

Stakeholder	**Question 23, To date, there have been no manmade or natural disasters of significance that would ultimately demonstrate if the development and execution of these SOPs by the ALMR approach effectively increases safety and security for response agencies and also facilitates a high level of communications interoperability between government agencies. However, would you say that from your understanding and experience with ALMR, the above elements have been met and the cost of implementing and maintaining these NIMS-integrated SOPs is required and warranted?**
FNSB	N/A
ALCOM	As described in question 22, the standard protocols and procedures significantly contribute to successful interoperable communications for ALMR stakeholders. Failure to implement, train on, and sustain these standard protocols and procedures will result in communications interoperability degradation or failure. With that evidenced in past exercises, and in some cases real-world events, the cost associated with development, implementation, training, sustainment and use of standard protocols and procedures is definitely warranted.
ATF	N/A
Elmendorf	For the State and Local agencies I would have to say yes. For the DOD who only assists in such disasters as directed by SECDEF and only for specific purposes a much smaller base of interoperable communications would be sufficient.

Table I-41. Question 24 Substantiations/Comments

Stakeholder	**Question 24, Should this cost and function be considered a continuingly inherent fundamental duty of government to facilitate preparedness and interoperability among government agencies?**
USARAK	Yes, effective disaster response is an inherently governmental duty
FNSB	N/A
ALCOM	This is a logical position with the understanding that in order to facilitate communications interoperability, a proactive and sustained approach to development, training, and frequent use of standard protocols and procedures is required.
ATF	N/A

Table I-42. Question 25 Substantiations/Comments

Stakeholder	**Question 25, Considering the alternative of operating independent government LMR systems, is the requirement warranted for developing and maintaining NIMS-integrated SOPs to preserve the safety and security of responders and facilitate procedures and protocols for interoperable communications between government agencies during a response?**
USARAK	Yes, to ensure ready short notice effective response
FNSB	N/A
ALCOM	In fact, the level of difficulty in processes, protocols and procedures is typically increased to establish robust, mature communications interoperability between non-standard independent communications infrastructures. This is because agencies operate their own systems, primarily for their own needs and have not implemented technologies and designed systems approaches that address up-front interoperable communications for multi-agency multi-jurisdictional communications during emergency response. Failure is more common, and the need for standard protocols and procedures is higher.
DOA	From #8 above, fundamental requirements for life, health, and safety require striving for maximum standards with available funding resources.
ATF	N/A

Stakeholder	**Question 25, Considering the alternative of operating independent government LMR systems, is the requirement warranted for developing and maintaining NIMS-integrated SOPs to preserve the safety and security of responders and facilitate procedures and protocols for interoperable communications between government agencies during a response?**
Elmendorf	If planned and integrated properly separate systems could interoperate when needed. There are several solutions to give disparate Emergency Management agencies some degree of interoperability when required. Most are much more cost effective than maintaining an enormous shared system.

Table I-43. Question 26 Substantiations/Comments

Stakeholder	**Question 26, If your answer to question 25 is Yes, would this have a continuing economic impact on your organization?**
DOT	Yes, there are costs associated with exercising plans, attending interoperable meetings, and reprogramming radios as new agencies come on. Operating costs will increase and radio software upgrades will become necessary.
AST	Policy development and maintenance is not cost free.
DPS	Policy development and maintenance is not cost free.
MOA	Relatively minimal due to the inherent nature of the interoperability requirement. We have to do it, one way or another.
USARAK	With minimal economic impact as these same practices and procedures would be required regardless
FFD	Unknown cost
NSFSA	Again if the cost share for the maintenance of the system which includes the individuals who will prepare and maintain the SOPs is implemented this will have an impact to our department.
FNSB	N/A
Eielson	There is a substantial amount of manpower hours and resources required to coordinate, develop, train, implement and sustain standard protocols and procedures.
ALCOM	There is a substantial amount of manpower hours and resources required to coordinate, develop, train, implement, and sustain standard protocols and procedures.
ATF	N/A

Table I-44. Question 27 Substantiations/Comments

Stakeholder	**Question 27, Prior to ALMR and the governance it established, were there NIMS-integrated SOPs, TICPs and protocols established?**
MOA	Some were in place but with a limited number of agencies
USARAK	Not to my knowledge
FNSB	N/A
Eielson	Prior to ALMR there was not the level and extent of NIMS-Integrated SOPs, TICPs, and protocols established. ALMR stakeholders, through the prosecution of governance actions such as establishment of a User Council and Operations Management Office have created an environment that fosters deliberative discussion, planning and establishment of interoperable communications standard protocols, processes and procedures. ALMR Stakeholders and the non-stakeholders that they communicate with have all attained a level of preparedness and ability to successfully establish and maintain interoperable communications than ever before.
DEA	However, the protocols were outdated and did not incorporate many of the current situational factors.

Stakeholder	Question 27, Prior to ALMR and the governance it established, were there NIMS-integrated SOPs, TICPs and protocols established?
ALCOM	Prior to ALMR there was not the level and extent of NIMS-Integrated SOPs, TICPs, and protocols established as there is today. ALMR stakeholders, through the prosecution of governance actions such as establishment of a User Council and Operations Management Office, have created an environment that fosters deliberative discussion, planning, and establishment of interoperable communications standard protocols, processes and procedures. ALMR stakeholders, and the non-stakeholders that they communicate with, have all attained a level of preparedness and the ability to successfully establish and maintain interoperable communications more than ever before.
DOA	Only partially.
ATF	N/A
Elmendorf	Unknown

Table I-45. Question 28 Substantiations/Comments

Stakeholder	Question 28, Since the implementation of ALMR and the governance it established, the capability to establish and sustain communications interoperability among government agencies (federal, state and local), and also between government agencies and non-government agencies (civil, industry and volunteer) has:
USARAK	Without specific knowledge about past practices, I'd suggest our ability to establish and sustain interoperable comms has increased dramatically
NSFSA	Until we have the ability through system maturity and use to practice and demonstrate through real world events it has yet to be proven to what extent our interoperability on a statewide/interagency basis has improved. On a local basis we demonstrate on a daily basis how effect the system is and it has improved our day to day operations ten fold.
FNSB	N/A
Eielson	Considering all aspects from improvement in technology, to governance, SOPs and daily usage along with the documented results provided during evaluations during exercises and after action reports, significant improvement has been realized. Could it get better, yes. Is more work required, yes. If ALMR stakeholders stay committed to prosecute the level of proactive leadership and guidance, and continues to pursue a broader implantation of the standard protocols, processes and procedures than it has already developed and implemented, along with a higher degree and frequency of training, then continued improvement will surely occur and appropriate levels of preparedness and ability to interoperate will be sustained.
ALCOM	Considering all aspects from improvement in technology, to governance, SOPs and daily usage, along with the documented results provided during evaluations, during exercises and after action reports, significant improvement has been realized. Could it get better, yes. Is more work required, yes. If ALMR stakeholders stay committed to prosecute the level of proactive leadership and guidance, and continue to pursue a broader implantation of the standard protocols, processes and procedures than it has already developed and implemented, along with a higher degree and frequency of training, then continued improvement will surely occur and the appropriate levels of preparedness and ability to interoperate will be sustained.
ATF	N/A

Table I-46. Question 29 Substantiations/Comments

Stakeholder	Question 29, What is the overall economic impact to your organization resulting from achieving and maintaining this level of NIMS integration into SOPs for communications interoperability between government agencies?
DOT	Operating costs have increased and the radios require programming support and software upgrades.

Stakeholder	Question 29, What is the overall economic impact to your organization resulting from achieving and maintaining this level of NIMS integration into SOPs for communications interoperability between government agencies?
AST	Cannot be determined. We have not developed the internal SOP's yet.
DPS	Cannot be determined. We have not developed the internal SOP's yet.
TSA	$6665.00 Per year
MOA	Economic impact is minimal EXCEPT as it positively impacts our ability to effectively deliver public safety services to our citizens.
USARAK	Minimal economic impact
FPD	Negligible- we'd apply these standards regardless
FFD	Unknown increase
FNSB	N/A
Eielson	There is a definite cost associated for development, coordination, implementation, training and sustainment of NIMS integrated SOPs. There has not been a study done that quantifies all the associated costs. The latest TCO provides a snapshot of that cost as shown in the historical costs section of the study. However these costs show only contract services related costs and do not show the accumulated costs of associated government personnel time.
DEA	The cost with integrating and maintaining this level of interoperability has been monumental to DEA nationwide.
ALCOM	There is a definite cost associated with the development, coordination, implementation, training and sustainment of NIMS-integrated SOPs. There has not been a study conducted that quantifies all the associated costs. The latest TCO provides a snapshot of the cost as shown in the historical costs section of the study. However, these costs show only contract services-related costs and do not show the accumulated costs of associated government personnel time.
DOA	From #20 above, the shared costs and consortium governance model of the ALMR Project allows maximum efficiency of limited funding resources across all stakeholders.
ATF	N/A
Elmendorf	The proposed cost of maintaining the current level of interoperability outweighs its operation requirement.

Table I-47. Question 30 Substantiations/Comments

Stakeholder	Question 30, Do you agree that the ALMR Cooperative is at the highest level of technology on the continuum?
AST	One can always "chase" the next technology. I am satisfied that ALMR uses current technology.
DPS	I am satisfied that ALMR uses current technology.
USARAK	Yes, I agree
FNSB	N/A
Eielson	As stated above ALMR provides a technology solution that was implemented to address not only the day-to-day operational needs of government agencies, but placed an equal focus on the need to interoperate between federal state and local government and for these stakeholders to interoperate with non-governmental agencies. This approach, taken in the initial development and throughout the implementation of ALMR ensured a very robust and mature technology solution was put in place cooperatively.
DEA	No, the ALMR has purchased, or convinced other agencies and users to purchase substandard equipment, (EF Johnson radios and various other network solutions) not easily supported by trunking networks.

Stakeholder	Question 30, Do you agree that the ALMR Cooperative is at the highest level of technology on the continuum?
ALCOM	As stated above ALMR provides a technology solution that was implemented to address not only the day-to-day operational needs of government agencies, but placed an equal focus on the need to interoperate between federal state and local governments and also for these stakeholders to interoperate with non-governmental agencies. This approach, taken in the initial development and throughout the implementation of ALMR, ensured a very robust and mature technology solution was put in place cooperatively.
ATF	N/A

Table I-48. Question 31 Substantiations/Comments

Stakeholder	Question 31, ALMR stakeholders are provided with a robust level of solutions-based technology with the goal of providing on-demand, in-real-time, secure interoperable communications for response agencies while also providing a day-to-day communications capability for all government agencies. Based on the national policies, goals and objectives, the SAFECOM Interoperability Continuum and your known requirements, is this the correct level of commitment and investment in a technical solution for your agency? For the stakeholders combined? (Your agency/stakeholders combined)
USARAK	Dual use, ready interoperable comms
FNSB	N/A
Eielson	Based primarily upon the known and validated requirements established at the time the ALMR system was designed and throughout its implementation, the correct level of commitment and correct level of investment has been made.
DEA	Read above statement: Technology (APCO Project 25) compliant- Yes, reliability - No.
ALCOM	Based primarily upon the known and validated requirements established at the time the ALMR System was designed, and also throughout its implementation, the correct level of commitment and correct level of investment has been made.
ATF	N/A

Table I-49. Question 32 Substantiations/Comments

Stakeholder	Question 32, Based on the known capability and robustness of the ALMR shared system, do you believe your agency could obtain the same level of interoperability if all ALMR stakeholders employed independent government LMR systems?
AST	If we all operated separate systems, there would be little "push" to create interoperable systems absent an emergency, especially because achieving that interoperability costs $.
DPS	If we all operated separate systems, there would be little "push" to create interoperable systems absent an emergency, especially because achieving that interoperability costs money and dedicated staff.
USARAK	I don't believe the same level of interoperability would be achievable given different levels of government with different resourcing challenges
FPD	I believe it'd be somewhat naïve to expect the same level of interoperability amongst a host of disparate systems
NSFSA	Our local agencies did and still do share our old radio conventional channels so on a local basis we were to some extent interoperable.
FNSB	N/A

Stakeholder	**Question 32, Based on the known capability and robustness of the ALMR shared system, do you believe your agency could obtain the same level of interoperability if all ALMR stakeholders employed independent government LMR systems?**
Eielson	The capability provided by the partnership approach could not be economically achieved independently. The shared technology approach allows agencies access to infrastructure and capabilities employee by other agencies that in some cases could not be obtained by another government al agency. The cooperative approach combines the strengths of single government agencies together to provide capabilities beyond what could reasonably and or possibly achieved alone. This is to some extent quantified in the capital cost of capabilities provided by one stakeholder that the other stakeholders benefit from, or access to real property and infrastructure that one government agency has, that could not possibly be obtained by another government agency alone. There has not been a study to substantiate and quantify the tangible and intangibles gained by the standard shared system approach as opposed to the independent approach. The logical assessment however demonstrates that the ALMR stakeholders have a more robust and mature capability than they had with their independent legacy systems.
ALCOM	The capability provided by the partnership approach could not be economically achieved independently. The shared technology approach allows agencies access to infrastructure and capabilities employed by other agencies, that in some cases could not be obtained by another governmental agency. The cooperative approach combines the strengths of single government agencies together to provide capabilities beyond what could reasonably achieve alone. This is, to some extent, is quantified in the capital cost of capabilities provided by one stakeholder that the other stakeholders benefit from, or access to real property and infrastructure that one government agency has that could not possibly be obtained by another government agency alone. There has not been a study to substantiate and quantify the tangible and intangibles gained by the standard shared system approach, as opposed to the independent approach. The logical assessment however, demonstrates that the ALMR stakeholders have a more robust and mature capability than they had with their independent legacy systems.
DOA	This would be impossible due to insufficient access to required frequencies independently as well as due to funding limitations.
ATF	N/A
Elmendorf	Same level, No. Could interoperability be achieved, Yes.

Table I-50. Question 33 Substantiations/Comments

Stakeholder	**Question 33, Based on the known capability and robustness of the ALMR shared system made possible by the shared approach, could your agency implement an independent and equivalent capability for the same or less capital investment?**
USARAK	I don't think we'd be able to match the network wide capability with equivalent our less investment
FNSB	N/A
Eielson	For reasons stated above in question 32, it would not be possible to attain the same level of robustness and capability for less or equal independent agency capital investment cost.
ALCOM	For reasons stated in question 32, it would not be possible to attain the same level of robustness and capability for a less or equal independent agency capital investment cost.
DOA	Even with full funding capabilities, an independent project that achieves the same levels of robustness and capabilities of the ALMR System would be impossible due to the limitations of frequencies.
ATF	N/A
Elmendorf	Due to the nature of Elmendorf's mission, I believe we could achieve our operation need with a single site and still provide key Emergency Response entities with the interoperable communications they need.

Table I-51. Question 34 Substantiations/Comments

Stakeholder	**Question 34, Should the cost of obtaining, operating and maintaining technology solutions that comply with national policy, goals and objectives be an inherent governmental duty and responsibility, and considered as part of their day-to-day operational requirements for communications?**
USARAK	Government yes, but not sure at what level of government
FPD	I can't answer this! Who is the "their" that's referenced??? The user-agency or the mandating agency??
FNSB	N/A
Eielson	In order for government agencies to provide the level of commitment and economic support required to design, implement, operate and maintain a standard based shared system between them, the requirement has to be valid, and established as a priority for funding. However, for most government agencies this is not identified as a valid priority requirement.
ALCOM	In order for government agencies to provide the level of commitment and economic support required to design, implement, operate and maintain a standard-based, shared system between them, the requirement has to be valid and established as a priority for funding. However, for most government agencies this is not identified as a valid priority requirement.
DOA	Ibid. #8 above.
ATF	N/A

Table I-52. Question 35 Substantiations/Comments

Stakeholder	**Question 35, Based upon your answer to questions 32 and 33, what would be the operational and economic impact on your agency, and all stakeholders combined, to implement independent government LMR systems?**
DOT	We would have to spend about $1.5M to $2M per site to build 60 repeater sites, just to achieve the coverage we have today. We would also have to spend $28K per site each year on operations and maintenance for the 60 sites. There are 2 DOD sites planned and 9 Anchorage Municipal sites which will add to the coverage. The total estimated cost to achieve coverage would be $106.68M.
AST	Unknown. That is something that would take days to calculate and require extensive research.
DPS	Unknown.
TSA	Unknown
MOA	Not too much for my agency. Big bucks for everyone else.
USARAK	Operationally less effective at added cost. Significant operational and economic impact
FPD	Nearly catastrophic due to unnecessary redundancies, duplication of system maintenance/oversight, etc.
FFD	Unknown
NSFSA	It would be cost prohibitive.
FNSB	N/A
Eielson	Operationally, there would be degradation in the current level of capability for day-to-day and interoperable communications in support of mutual aid emergency response roles and missions. This is evidenced by operational assessments and after action reports from exercises and real world events.
DEA	In order to relieve some of the economic impact on some agencies, the ALMR should conduct research and development into product Quality of Service, (QoS) before suggesting that agencies acquire specific products and network solutions that do not operate efficiently or effectively on the ALMR.

Stakeholder	Question 35, Based upon your answer to questions 32 and 33, what would be the operational and economic impact on your agency, and all stakeholders combined, to implement independent government LMR systems?
ALCOM	Operationally, there would be degradation in the current level of capability for day-to-day and interoperable communications in support of mutual aid emergency response roles and missions. This is evidenced by operational assessments and after-action reports from exercises and real-world events.
DOA	Even assuming that the frequency limitations could be overcome, which they can't, SOA costs would be exponentially greater to implement an independent LMR system.
ATF	N/A
Elmendorf	Elmendorf would have an up front cost to establish the single site to service the installation.

Table I-53. Question 36 Substantiations/Comments

Stakeholder	Question 36, Do you agree that the ALMR Cooperative is at the highest level of training and exercises on the continuum?
AST	Ideally we would conduct more training. We are doing well, but we could do better.
DPS	One can always do more training. In particular, we would like to see more frequent, but smaller exercises.
USARAK	Day-to-day use which is operationalized for independent stakeholder needs.
FPD	much more training/exercises need to be done, particularly for those agencies who rarely use radios in their day-to-day ops.
FFD	Still developing
FNSB	N/A
Eielson	From a purely subjective point of view, exercise and training is certainly at an increased level than that prior to ALMR, however, it is the respondents opinion that it is not as mature and robust as it should be. There is not a measure provided by SAFECOM or a self assessment provided by DHS that a quantitative analysis could be completed to measure an agencies or partnerships maturity in this area.
ALCOM	From a purely subjective point of view, exercise and training is certainly at an increased level than prior to ALMR. However, it is the respondent's opinion that it is not as mature and robust as it should be. There is not a measure provided by SAFECOM, or a self assessment provided by DHS, that a quantitative analysis could be completed to measure an agencies or partnerships maturity in this area.
DOA	True at the planning level but always compromised by available funding.
ATF	N/A

Table I-54. Question 37 Substantiations/Comments

Stakeholder	Question 37, How does this level of training and exercises meet your operational requirements?
USARAK	Meets our dual use needs or TRO and disaster response.
FPD	For US it meets just fine; for other agencies I believe it's lacking
FNSB	N/A
Eielson	Training is scheduled and included in a training plan for the organization. A monthly communications exercise is conducted to reinforce interoperabiliity with other agencies. ALMR use and operation is included in appropriate exercises as a matter of general policy.
DEA	Though DEA has not actively participated in ALMR training excercises. Training ahs been offered.

Stakeholder	Question 37, How does this level of training and exercises meet your operational requirements?
ALCOM	Training is scheduled and included in a training plan for the organization. A monthly communications exercise is conducted to reinforce interoperabiliity with other agencies. ALMR use and operation is included in appropriate exercises as a matter of general policy.
DOA	Relies on availability of sustained funding for training.
ATF	N/A

Table I-55. Question 38 Substantiations/Comments

Stakeholder	Question 38, With regard to interoperable communications SOPs and protocols and prior to the establishment of the ALMR governance and establishment of an OMO, did the same level of robust, local, regional and statewide training and exercises exist?
DPS	Interoperability exercises were few and far between.
USARAK	Not to my knowledge
FPD	Implementation of an integrated ALMR system has definitely "raised the profile" of the necessity of training in this area
FNSB	N/A
Eielson	The level of training and exercises that include use of SOPs and focuses on interoperable communications has definitely increased. This is attributed to funding provided during the project phases that facilitated transition from the legacy system to the shared system infrastructure and administered under the direction of the Operations Management Office.
ALCOM	The level of training and exercises that include use of SOPs and focuses on interoperable communications has definitely increased. This is attributed to funding provided during the project phase that facilitated transition from the legacy system to the shared system infrastructure and was administered under the direction of the Operations Management Office.
DOA	Efforts were isolated and not coordinated across all state, federal, and local users.
ATF	N/A

Table I-56. Question 39 Substantiations/Comments

Stakeholder	Question 39, Has the ALMR shared system approach and the established governance contributed to enhanced training and exercises that increase your agency's ability to interoperate with other government agencies and non-governmental agencies?
USARAK	Absolutely
FNSB	N/A
Eielson	This is quantified in operational assessments and after action reports from exercises and real world events. IN every case where deliberative planning, training and use of SOPs were engaged and followed, interoperable communications was successful and effectively met operational needs. Where there was no deliberative planning, training and use of SOPs there were in every case issues with establishing and or sustaining interoperable communications.
ALCOM	This is quantified in operational assessments and after-action reports from exercises and real world events. In every case where deliberative planning, training and use of SOPs were engaged and followed, interoperable communications were successful and effectively met operational needs. Where there was no deliberative planning, training and use of SOPs there were in every case issues with establishing and or sustaining interoperable communications.
ATF	N/A

Table I-57. Question 40 Substantiations/Comments

Stakeholder	**Question 40, Has this resulted in an increase in training and exercise for your agency with regard to interoperable communications procedures and protocols, and has there been a direct economic impact as a result?**
DOT	Training and the exercise of plans requires an investment of capital and time for already busy schedules.
AST	Training and exercises cost money.
DPS	Training and exercises cost money.
USARAK	Minimal economic impact with greatest utility
FPD	While there has definitely been an impact, the majority has been offset through DHS grant-support for training/exercises.
FNSB	N/A
Eielson	As previously answered there is an increase of and deliberative effort to train on ALMR and use this capability and the associated SOPs in exercises on a frequent basis. There has been a direct economic impact in that there are direct and indirect costs for the deliberative planning, training and execution of exercises. There however is not a factual quantitative study completed that can be referred to establish the exact impact. The latest TCO does capture the historical cost of services related to this effort, but lacks the total tangible, intangible, direct and indirect costs.
ALCOM	As previously answered, there is a deliberative effort to increase training on ALMR and use this capability, and the associated SOPs, in exercises on a frequent basis. There has been a direct economic impact in that there are direct and indirect costs for the deliberative planning, training and execution of exercises. However, there has not been a factual, quantitative study completed that can be referred to which establishes the exact impact. The latest TCO does capture the historical cost of services related to this effort, but lacks the total tangible, intangible, direct and indirect costs.
DOA	The ALMR consortium model has allowed access to coordinated training exercises by SOA users with little or no additional expenditures.
ATF	N/A

Table I-58. Question 41 Substantiations/Comments

Stakeholder	**Question 41, Considering the alternative of operating independent government LMR systems, should the level of training and exercise be increased, remain the same, or decreased to meet national policies, goals and objectives with regard to obtaining and sustaining interoperable communications during multi-jurisdictional, multi-agency mutual aid and incident response situations?**
AST	We should do more, smaller scale exercises.
DPS	We should do more, smaller scale exercises.
USARAK	Given other competing OPTEMPO, currently believe the exercise/training is sustainable without adverse impact to competing demands.
FNSB	N/A
Eielson	If each government agency were operating their own independent infrastructure, in order to meet the national goals and objectives for interoperable communications, there would be required a substantial increase in training and exercises to lead to proficiency and confidence of use by response agencies. This especially true because agencies will not be using equipment and procedures that they are familiar with on a day-to-day basis, as is done with ALMR.

Stakeholder	**Question 41, Considering the alternative of operating independent government LMR systems, should the level of training and exercise be increased, remain the same, or decreased to meet national policies, goals and objectives with regard to obtaining and sustaining interoperable communications during multi-jurisdictional, multi-agency mutual aid and incident response situations?**
ALCOM	If each government agency were operating their own independent infrastructure in order to meet the national goals and objectives for interoperable communications, there would be a required substantial increase in training and exercises to lead to proficiency and confidence of use by response agencies. This is especially true because agencies would not be using equipment and procedures that they are familiar with on a day-to-day basis, as happens with ALMR.
DOA	Independent LMR systems would require significant increases in SOA expenditures to meet minimum standards.
ATF	N/A

Table I-59. Question 42 Substantiations/Comments

Stakeholder	**Question 42, Could the same level of training and exercise support and activities relating to interoperable communications provided by the ALMR governance though the OMO be provided independently, and could it be provided for a lesser, same, or a higher cost?**
USARAK	Cannot duplicate this level of interoperability with independent systems.
FNSB	N/A
Eielson	The training and exercises could be provided that are equal to what is provided by ALMR, however, the difficulty of achieving this would be enormous. Without a governance structure that brings stakeholders together to seek mutual benefit out a a shared system, the motivation has not been present within the operation of independently owned and operated LMR systems. The cost would also be higher, as each agency costs are funded totally by that agency. Within a shared approach with a governance in place, the cost is shared among the stakeholders and has historically been proved to provide more robust planning, training and exercise support for a lower cost than the traditional legacy independent systems approach..
DEA	Yes, by establishing a train the trainer program, if not already in place.
ALCOM	The training and exercises could be provided that are equal to what is provided by ALMR. However, the difficulty of achieving this would be enormous. Without a governance structure that brings stakeholders together to seek mutual benefit out a a shared system, the motivation has not been present within the operation of independently owned and operated LMR systems. The total cost would also be higher, as each agency's costs are funded totally by that agency. Within a shared approach with a governance in place, the cost is shared among the stakeholders and has historically been proved to provide more robust planning, training and exercise support at a lower cost than the traditional independent legacy systems approach.
DOA	The economic efficiencies provided by the ALMR consortium model cannot be replicated with independent LMR systems.
ATF	N/A

Table I-60. Question 43 Substantiations/Comments

Stakeholder	**Question 43, Is their a bona fide requirement to sustain proactive deliberative planning preparation and training to support exercise and real-world events?**
AST	If we don't train with our equipment, we won't know how to use it when it matters.
DPS	If we don't train with our equipment, we won't know how to use it when it matters.
USARAK	Deliberate planning is essential to effective execution
FNSB	N/A

Stakeholder	Question 43, Is their a bona fide requirement to sustain proactive deliberative planning preparation and training to support exercise and real-world events?
Eielson	This is a bonafide requirement that should be identified as a requirement, prioritized at a level that will ensure appropriate funding is sustained.
ALCOM	This is a bonafide requirement that should be identified and prioritized at a level that will ensure appropriate funding is sustained.
DOA	Obvious and self-explanatory.
ATF	N/A
Elmendorf	Unknown

Table I-61. Question 44 Substantiations/Comments

Stakeholder	Question 44, If your answer to question 43 is Yes, should this be a shared cost of all stakeholders and administered through the OMO?
DOT	There should be funds available through Homeland Security grants for training to maintain proficiency and preparedness.
USARAK	shared cost is best
FNSB	N/A
Eielson	Sharing the cost typically has been proven to yield a greater capability for each agency, at a lower cost than individual agencies conducting proactive deliberative planning preparation independently. It has also proved to be more successful.
DEA	Not all stakeholders may be involved or participate in training.
ALCOM	Sharing the cost typically has proven to yield a greater capability for each agency at a lower cost than individual agencies independently conducting proactive deliberative planning preparation. It has also proved to be more successful.
DOA	If not the efficiencies of the consortium model are not exercised.
ATF	N/A

Table I-62. Question 45 Substantiations/Comments

Stakeholder	Question 45, What is the economic and operational impact of continuing and/or eliminating this activity?
DOT	If the training is not continued, the proficiency and operational capability will decline and the safety of our crew could be jeopardized.
AST	Training costs money.
DPS	Training costs money.
MOA	elimination would degrade our ability to respond to major or wide area events
USARAK	operational impact would be severe
FPD	that would depend upon whatever cost-share policy was formulated
FNSB	N/A
Eielson	The deliberative planning preparation process should be sustained, the loss of proactive deliberative planning processes will create shortfalls in agencies ability to interoperate, as gaps in preparation and the ability to interoperate will not be examined and identified before an incident, and as a result, corrections will not be made, procedures established and training provided. The shortfalls that will fallout of the lack of deliberative planning processes will potentially result in safety and security issues and will most certainly result in degraded or lack of interoperable communications to meet mission needs. This function should reside in the Operations Management Office, and the cost shared by all stakeholders.
DEA	Personnel training is often supported, but agency operational tempo often will dictate participation.

Stakeholder	Question 45, What is the economic and operational impact of continuing and/or eliminating this activity?
ALCOM	The deliberative planning preparation process should be sustained. The loss of proactive deliberative planning processes will create shortfalls in an agency's ability to interoperate, as gaps in preparation and the ability to interoperate will not be examined and identified before an incident. As a result, corrections will not be made, procedures will not be established, and training will not be provided. The fallout will be that the lack of deliberative planning processes could potentially result in safety and security issues, and will most certainly result in degraded or lack of interoperable communications to meet mission needs. This function should reside in the Operations Management Office and the cost should be shared by all stakeholders.
DOA	Again, the efficiencies of the consortium model are the only means of maintaining existing levels of training and exercises.
ATF	N/A

Table I-63. Question 46 Substantiations/Comments

Stakeholder	Question 46, Is the cost of participating and engaging in training and exercises an inherent governmental duty, and should this cost be considered as part of the day-to-day operational cost of communications for your agency?
USARAK	Training is essential to preparedness
FPD	in areas such as this, where national policy has dictated an over-arching system that we need to comply with, there should be significant Federal support for continuing operational costs .
FFD	To some degree.
FNSB	N/A
Eielson	To establish and ensure that funding is available and sustained, government agencies must consider and adopt these requirements as inherent to their missions and account for them in the operational costs of the system.
ALCOM	To establish and ensure that funding is available and sustained, government agencies must consider and adopt these requirements as inherent to their missions and account for them in the operational costs of the system.
DOA	Obvious.
ATF	N/A

Table I-64. Question 47 Substantiations/Comments

Stakeholder	Question 47, What is the overall economic impact to your organization resulting from regular training and statewide exercises?
DOT	I spend about $18K per year providing training to M&O staff.
AST	It varies. Some years we have big exercises, some year we have none.
DPS	It varies. Some years we have big exercises, some years we have none.
TSA	None
MOA	Has always been recognized as a requirement and included in regular budgets.
USARAK	Minimal impact at this time.
FPD	Already addressed.
FFD	Minor
FNSB	N/A
Eielson	There is no quantitative analysis available to provide the required answer. The latest TCO does however capture the historical costs of services related to deliberative planning and training costs. The TCO does not capture the total direct and indirect, tangible and intangible costs associated with sustaining deliberative planning, training and exercises.

Stakeholder	Question 47, What is the overall economic impact to your organization resulting from regular training and statewide exercises?
DEA	Same as question # 45
ALCOM	There is no quantitative analysis available to provide the required answer. However, the latest TCO does capture the historical costs of services related to deliberative planning and training costs. The TCO does not capture the total direct and indirect, tangible and intangible costs associated with sustaining deliberative planning, training and exercises.
DOA	See all comments above. Existing consortium model provides for the most economical use of funds by all stakeholders to achieve what would otherwise be difficult or impossible to execute.
ATF	N/A

Table I-65. Question 48 Substantiations/Comments

Stakeholder	Question 48, Do you agree that the ALMR Cooperative is at the highest level of usage on the continuum?
USARAK	Yes
FNSB	N/A
Eielson	ALMR stakeholders use the same equipment day-to-day that would also be used in emergency response.
ALCOM	ALMR stakeholders use the same equipment day-to-day that would also be used in emergency response.
ATF	N/A

Table I-66. Question 49 Substantiations/Comments

Stakeholder	Question 49, Does this level of usage meet your operational day-to-day requirements?
USARAK	Yes, meets our needs
FNSB	N/A
Eielson	The technology fully meets the day-to-day operational needs.
DEA	DEA is often engaged in operations where INTEROP communication is required.
ALCOM	The technology fully meets the day-to-day operational needs.
DOA	Primarily driven by life, health, safety requirements of the Department of Public Safety and Department of Transportation.
ATF	N/A

Table I-67. Question 50 Substantiations/Comments

Stakeholder	Question 50, Does this level of usage meet your emergency response, tactical and or incident command communications interoperability requirements?
USARAK	Yes, meets our interoperability requirements
FNSB	N/A
Eielson	The equipment fully meets the emergency response requirements.
ALCOM	The equipment fully meets the emergency response requirements.
DOA	See #49 above.
ATF	N/A

Table I-68. Question 51 Substantiations/Comments

Stakeholder	**Question 51, Is the added cost of Public Safety standards-compliant subscriber equipment operating on a standards-based, shared system infrastructure used by all government agencies on a daily basis warranted?**
AST	The system needs to be reliable. We are not talking about AM talk radio.
DPS	The system needs to be reliable. The public has a reasonable expectation that our radio communication system will be available both for every-day and for large scale emergencies.
USARAK	Cannot speak to all government entities and their usage, but would think each agency tailors their daily use to their own internal needs.
FPD	System should be supported on a Statewide level, rather than "subscriber-based"
NSFSA	To some extent. The cost for some may to high to take advantage of the system and thus reduce the overall number of agencies who can afford to be on the system and in turn reduce interoperability.
FNSB	N/A
Eielson	There is a quantified increase in capability and interoperability achieved at a reasonable cost by following the national guidance and addressing the five elements of the interoperability continuum.
ALCOM	There is a quantified increase in capability and interoperability achieved, at a reasonable cost, by following the national guidance and addressing the five elements of the interoperability continuum.
DOA	By definition this is the primary benefit of the ALMR consortium project.
ATF	N/A

Table I-69. Question 52 Substantiations/Comments

Stakeholder	**Question 52, Should government agencies that have the mission to provide emergency response or support, , in addition to their day-to-day mission responsibilities, have an inherent responsibility to procure and operate radio communications assets that are Public Safety standards based and operate on standards-based communications infrastructures?**
AST	Agencies that don't purchase standards based equipment hamper our ability to interoperate.
DPS	Agencies that don't purchase standards based equipment hamper our ability to interoperate. They may not be able to fully access system capabilities.
USARAK	Yes, if those are the standards, then entities expected to respond should meet those standards
NSFSA	It's a good idea but there to my knowledge no mandate for this
FNSB	N/A
Eielson	There is no legal way in which the appropriate capability could be achieved, funded and sustained unless it is held as an inherent responsibility and requirement by government agencies. Government agencies cannot fund requirements that are not identified as a valid requirement for that agency, and in funding restrained environments, the correct level of priority must be applied to ensure funding is provided and sustained.
ALCOM	There is no legal way in which the appropriate capability could be achieved, funded, and sustained unless it is held as an inherent responsibility and requirement by government agencies. Government agencies cannot fund requirements that are not identified as a valid requirement for that agency. In funding constrained environments, the correct level of priority must be applied to ensure funding is provided and sustained.
DOA	See #51 above.
ATF	N/A

Table I-70. Question 53 Substantiations/Comments

Stakeholder	Question 53, Considering the alternative of operating non-standard, independent government LMR systems, could the same level of preparedness be sustained?
USARAK	No, without uniformity in standards, then it is unlikely different responders would sustain adequate level of preparedness
FNSB	N/A
Eielson	DHS has examined what is required to initiate and sustain mature robust levels of interoperable communications. This is reflected in the Framework for Interoperability, and the five elements of the SAFECOM Continuum. Their analysis documents that independent non standard systems fail to provide the mature robust level of interoperable communications in line with the national goals and objectives.
ALCOM	DHS has examined what is required to initiate and sustain mature robust levels of interoperable communications. This is reflected in the Framework for Interoperability, and the five elements of the SAFECOM Continuum. Their analysis documents show that independent, non-standard systems fail to provide the mature robust level of interoperable communications in line with the national goals and objectives.
DOA	Self-evident.
ATF	N/A

Table I-71. Question 54 Substantiations/Comments

Stakeholder	Question 54, If your answer to question 53 is Yes, would the cost be less, equal or more?
USARAK	Independent solutions applied independently would likely cost much more.
FNSB	N/A
DEA	Upgrading equipment is always costly.
ATF	N/A

Table I-72. Question 55 Substantiations/Comments

Stakeholder	Question 55, What is the overall economic impact to your organization resulting from compliance with this daily-use level?
DOT	The cost is outweighed by the efficiency of operation and the amount of coverage that is provided.
AST	Unknown
DPS	Unknown
TSA	$6665.00 Per year
MOA	We estimate system replacement cost as being 40% greater than having implemented non compliant LMR system
USARAK	Minimal economic impact
FPD	already addressed
FFD	minor
FNSB	N/A
Eielson	The economic impact has not been quantified that would provide an exact cost impact. However, the cost of implementing Project 25 standards based equipment, and the added technology solutions required to meet requirements of establishing and sustaining interoperability between federal, state, local and tribal governments and with non governmental organizations is higher than non standard systems.
DEA	The economic impact has been monumental for DEA nationwide.

Stakeholder	Question 55, What is the overall economic impact to your organization resulting from compliance with this daily-use level?
ALCOM	The economic impact has not been quantified that would provide an exact cost impact. However, the cost of implementing Project 25, standards-based equipment, and the added technology solutions required to meet requirements of establishing and sustaining interoperability between federal, state, local and tribal governments and with non-governmental organizations, is higher than non-standard systems.
DOA	Maximum efficiency of expenditures with limited funds and frequencies.
ATF	N/A

Table I-73. Question 56 Substantiations/Comments

Stakeholder	Question 56, Is the ALMR Cooperative in compliance with the NECP goals?
AST	The application of the goals to the reality of Alaska's terrain and size is not completely clear to me.
DPS	One could argue that the NECP goals make for a "one size fits all" approach that is unreasonable given the size of Alaska.
USARAK	My knowledge of ALMR would lead me to believe we are in compliance with NECP goals.
FPD	I have no idea! You've provided no statistical projections indicating current progress with respect to the percentages cited in goals #1-3 above!
NSFSA	Don't have the details to answer this question on a system wide basis but locally I believe we are pretty close to compliance.
FNSB	N/A
Eielson	ALMR stakeholders are at the NECP Goal 1 level for local, regional and statewide events as evidenced under real world and exercise conditions.
ALCOM	ALMR stakeholders are at the NECP Goal 1 level for local, regional, and statewide events as evidenced under real-world and exercise conditions.
DOA	With reference to Goal #1.
ATF	N/A

Table I-74. Question 57 Substantiations/Comments

Stakeholder	Question 57, How does ALMR compliance with the NECP meet your operational requirements with regard to providing interoperable communications?
USARAK	Standards based against response times helps drive fundamental interoperability
FNSB	N/A
Eielson	Immediate interoperable communications that are secure, on-demand and in real time is the standard and requirement that ALMR was designed to and implemented to meet.
ALCOM	Immediate, interoperable communications that are secure, on-demand and in real time is the standard requirement that ALMR was designed and implemented to meet.
ATF	N/A

Table I-75. Question 58 Substantiations/Comments

Stakeholder	Question 58, Is the ability to establish and sustain interoperable communications within the timelines outlined for routine events involving multiple jurisdictions and agencies considered to be an inherent responsibility of government agencies?
AST	To the degree that the timelines even can be applied in Alaska.
DPS	To the degree that the timelines even can be applied in Alaska.
USARAK	I believe it is
FNSB	N/A

Stakeholder	**Question 58, Is the ability to establish and sustain interoperable communications within the timelines outlined for routine events involving multiple jurisdictions and agencies considered to be an inherent responsibility of government agencies?**
Eielson	AS defined in the national framework for interoperable communications government agencies who provide response to routine events involving multiple jurisdictions and agencies have a requirement to be able to establish and sustain interoperable communications. This is an inherent responsibility and a valid requirement for those government agencies that perform these missions and roles.
ALCOM	As defined in the national framework for interoperable communications, government agencies who provide response to routine events involving multiple jurisdictions and agencies have a requirement to be able to establish and sustain interoperable communications. This is an inherent responsibility and a valid requirement for those government agencies that perform these missions and roles.
ATF	N/A

Table I-76. Question 59 Substantiations/Comments

Stakeholder	**Question 59, Considering the ALMR partnership approach to support response to events that are multi-jurisdictional and multi agency, would the operation of independent government LMR systems provide the appropriate technology solution to meet the NECP objectives?**
USARAK	Doubtful it would to the degree currently provided
NSFSA	There would be no guarantee that independent systems would meet any standards
FNSB	N/A
Eielson	No not equally. Potentially, independent systems could meet NECP time objectives, however it would be much more difficult and the capability would be much less than standards based shared systems.
DEA	Most state and local agencies often do not have the resources or capability to meet NECP objectives.
ALCOM	No, not equally. Potentially, independent systems could meet NECP time objectives. However, it would be much more difficult and the capability would be much less than that of standards-based shared systems.
DOA	Insufficient frequencies and limited funds.
ATF	N/A

Table I-77. Question 60 Substantiations/Comments

Stakeholder	**Question 60, Considering question 59, would the procurement and operation of independent government LMR systems that are not designed and implemented to meet NECP communications interoperability goals provide less, equal or greater capability than the ALMR approach?**
USARAK	Cannot see how independent solutions would sustain or improve interoperability
FNSB	N/A
Eielson	ALMR as previously stated was designed to provide on-demand, and in real time secure interoperable communications for first responders. This level could not be achieved using an independent LMR systems approach.
ALCOM	ALMR as previously stated, was designed to provide on-demand and in-real- time, secure interoperable communications for first responders. This level could not be achieved using an independent LMR systems approach.
DOA	Self-evident.
ATF	N/A

Table I-78. Question 61 Substantiations/Comments

Stakeholder	**Question 61, Considering questions 58 and 59, would the operation of independent government LMR systems which are designed and implemented to meet the NECP communications interoperability goals cost less, equal to or more to procure, implement, operate and maintain?**
AST	Duplication of resources is generally not a good idea, expect to the degree that some redundancy (within a given framework) provides backup in the event of partial system failure.
DPS	Duplication of resources is generally not a good idea, expect to the degree that some redundancy (within a given framework) provides backup in the event of partial or complete system failure.
TSA	Unknown
MOA	We question the ability of independent systems to actually comply with NECP goals
USARAK	To sustain current goal level would undoubtedly cost more.
NSFSA	Hard to tell but to meet the standards set forth I would guess more
FNSB	N/A
Eielson	Following the logic that independent systems would need to equal the capabilities of the shared system approach like ALMR, as previously stated it is not possible to obtain the same capability for an equal or lesser cost. The ALMR Separation Study quantifies this fact.
ALCOM	Following the logic that independent systems would need to provide capabilities equal to those of the ALMR shared system approach, it is not possible to obtain the same capability for an equal or lesser cost. The ALMR Separation Study quantifies this fact.
DOA	Increased costs are self-evident but the lack of sufficient frequencies to support independent systems makes meeting the NECP standards impossible to achieve.
ATF	N/A
Elmendorf	Unknown

Table I-79. Question 62 Substantiations/Comments

Stakeholder	**Question 62, What is the overall economic impact to your organization resulting from compliance with the NECP?**
DOT	By participating in ALMR, DOT&PF went from radio coverage of approximately 42% of the connected highway system to approximately 93%, but our O&M costs have gone up by only about 12%. The operational efficiency has increased by approximately 76%, thus ending up with a net time and cost savings. Where DOT&PF has ALMR, it has the best communications and interoperability in its history.
AST	Unknown.
DPS	Unknown.
TSA	$6665>00 Per year
MOA	Minimal. Interoperability has always been recognized as an inherent responsibility
USARAK	Minimal impact
FPD	Already addressed!!! Who wrote this survey?? This is worse than an MMPI- you are asking the same questions coming from a slightly different angle/viewpoint, multiple times!
FFD	unknown
NSFSA	The cost has been great with regards to purchasing subscriber units
FNSB	N/A
Eielson	There is no additional economic impact over the original design and combined stakeholder requirements for ALMR. Based upon the requirement for on-demand, in real time secure interoperable communications among and between the stakeholders, the NSCP initial goals are exceeded.

Stakeholder	Question 62, What is the overall economic impact to your organization resulting from compliance with the NECP?
DEA	The economic impact has been monumental but required for DEA nationwide.
ALCOM	There is no additional economic impact over the original design and combined stakeholder requirements for ALMR. Based upon the requirement for on-demand, in-real-time, secure interoperable communications among and between the stakeholders, the initial NSCP goals have been exceeded.
DOA	Same as for all previous economic impact questions.
ATF	N/A
Elmendorf	More than operating our own system.

Table I-80. Question 63 Substantiations/Comments

Stakeholder	Question 63, As a stakeholder, is the need for a UC warranted and are the roles and responsibilities of the UC beneficial to your agency's use of, and participation in, ALMR?
USARAK	Always good to have direct user interface
FNSB	N/A
ALCOM	It is at the User Council level that the interoperability discussion is most earnestly held, and solutions developed and implemented. Development of protocols and SOPs are facilitated by the Operations Management Office who represents and supports the User Council. Together, the Operations Management Office and UC determine the standards for operation and maintenance of the shared system infrastructure, and define and track the critical trends associated with these standards.
DOA	As established in the ALMR Cooperative Agreement, the ALMR Consortium is dependent on the User Council to make sure all operational and maintenance decisions and actions are consistent with and driven by consortium user needs and requirements on a day-to-day basis.
ATF	N/A

Table I-81. Question 64 Substantiations/Comments

Stakeholder	Question 64, Has UC actions related to their responsibilities created an undue economic impact on your agency? If so, what specific actions have had this impact?
AST	Reprogramming of radios to meet "mandated" zones for interoperability costs $.
DPS	Reprogramming of radios to meet "mandated" zones for interoperability has cost DPS quite a lot of technician time and overtime for troopers who were required to bring vehicles to central locations for the updates.
USARAK	Not to my knowledge
FNSB	N/A
Eielson	The UC has approved OMO documents and procedures that raise our annual fee. We feel that many functions of the OMO are not necessary for DOD. The total cost of OMO items not needed by DOD is $760,167.00. This was identified by The AF and Army several months ago. Some examples are conferences to Las Vegas and Kansas City. See document at end of survey.
ATF	N/A
Elmendorf	Economic impact has been determined within DOD HQ level without counsel from the DOD users.

Table I-82. Question 65 Substantiations/Comments

Stakeholder	Question 65, If UC decisions have had direct economic impact on your agency, was that impact warranted, and could the resulting cost be justified and legally supported by an appropriation?
FNSB	N/A
Eielson	The resulting cost was not justified or warranted.
DOA	UC decisions have been and continue to be the foundation of the ALMR Consortium Service Level Agreement. This SLA drives ALMR system design as well as operational and maintenance requirements.
ATF	N/A

Table I-83. Question 66 Substantiations/Comments

Stakeholder	Question 66, Are there direct or indirect costs to your agency to provide representation to the UC? If so, is this cost warranted?
AST	We gain more than we spend by being actively involved with the UC>
DPS	DPS sees more benefits than costs due to our being actively involved with the UC.
USARAK	As a user to this system, then our attendance to these forums is warranted. Indirect cost is simply the time away from other activities/duties
FNSB	N/A
Eielson	There is a cost for personnel to fill the responsibilities associated with the UC. These costs have been substantiated in the latest ALMR TCO under historical and projected costs.
DEA	DEA - Seattle Field Division Technology management group is located in Seattle, WA (Division HQ) and Lorton, VA (DEA - HQ Office of Technology)
ALCOM	There is a cost for personnel to fill the responsibilities associated with the UC. These costs have been substantiated in the latest ALMR TCO under historical and projected costs.
DOA	Direct allocation of time and some out-of-pocket expense for attendance.
ATF	N/A
Elmendorf	No cost to provide representation.

Table I-84. Question 67 Substantiations/Comments

Stakeholder	Question 67, Considering the roles and responsibilities of the UC with regard to the current ALMR approach, and the alternative of operating independent government LMR systems, would the same level of deliberative planning, dialog and interaction between government agencies related to interoperable communications occur?
USARAK	Unlikely
FPD	Another ridiculous question, as it calls for COMPLETE SPECULATION. How would I know??? If disparate systems were implemented, you'd likely need FAR MORE communication that that afforded through the current user-council. However, the greater frequency of problems/issues likely to arise could certainly cause more frustration and ultimately lead to less communication and cooperation.
FNSB	N/A
ALCOM	Because there would be a lack of a common interest that is attained when agencies are sharing resources, the driving factors that would bring government agencies together would not be in the forefront as they are with ALMR. Typically, independent agencies do not engage in deliberative planning and dialog on a regular basis unless there is a constant common interest. The governance of ALMR, and the shared system approach, naturally and logically fosters deliberative planning, dialog, and interaction where independent system approaches do not.

Stakeholder	Question 67, Considering the roles and responsibilities of the UC with regard to the current ALMR approach, and the alternative of operating independent government LMR systems, would the same level of deliberative planning, dialog and interaction between government agencies related to interoperable communications occur?
DOA	Not without substantial increases in costs to establish, implement, and sustain similar levels of independent coordination.
ATF	N/A
Elmendorf	ALMR UC and OMO are created specifically to plan interaction between govt agencies. Without a dedicated office it could not be done at the same level of detail.

Table I-85. Question 68 Substantiations/Comments

Stakeholder	Question 68, Considering the alternative of implementing and operating independent government LMR systems, would the establishment of a similar body be required to be compliant with the national goals and objectives related to interoperable communications between government agencies?
DOT	The moral obligation would still be there, however I am not sure about the over site or enforcement.
USARAK	Undoubtedly, there would be need to participate in a collective forum in order to sustain interoperability
FNSB	N/A
Eielson	Without doubt, to be effective and to meet the deliberative planning, dialog and interaction required to develop protocols, processes and standard procedures, to sove technology interface issue and to train and exercise, such a body would be beneficial and should be required.
DEA	No, not at the current level.
ALCOM	Without doubt, such a body would be beneficial and should be required in order to be effective and to meet the deliberative planning, dialog and interaction required to develop protocols, processes and standard procedures, to solve technology interface issues, as well as to train and exercise.
DOA	Self-evident.
ATF	N/A
Elmendorf	It could possibly be done cheaper.

Table I-86. Question 69 Substantiations/Comments

Stakeholder	Question 69, What is the overall economic impact to your organization resulting from compliance with the UC Charter?
DOT	The impact has been positive since training and attendance of meetings has increased to stay current on procedures.
AST	Unknown.
DPS	Unknown.
TSA	None
MOA	minimal staff time
USARAK	Minimal impact
FPD	Negligible (as has already been stated....)
FFD	acceptable
FNSB	N/A
Eielson	The impact is related to the direct and indirect costs of time spent by personnel to perform tasks and engage in governance activities that are not a core discipline of the organization. This type of task is not typically included in the validation and approval of work loads that drive manning requirements and funding for those requirements.

Stakeholder	Question 69, What is the overall economic impact to your organization resulting from compliance with the UC Charter?
DEA	Other than location, none.
ALCOM	The impact is related to the direct and indirect costs of time spent by personnel to perform tasks and engage in governance activities that are not a core discipline of the organization. This type of task is not typically included in the validation and approval of work loads that drive manning requirements and funding for those requirements.
DOA	Same as other "overall economic impact" questions.
ATF	N/A
Elmendorf	None that I am aware of.

Table I-87. Question 70 Substantiations/Comments

Stakeholder	Question 70, How do the service/restoration levels and quality of service meet your agency's independent requirements for maintenance response, repair and restoration of services and for sustainment of the correct quality of service?
USARAK	Essential to sustaining a ready system are clear understanding of response times and service levels
FNSB	N/A
Eielson	For the DOD agencies in some cases the service response, restoration and quality of service levels exceed independent day-to-day operational requirements. There are no cases where the current service response, restoration and quality of service levels do not meet current day-to-day DOD requirements. However, considering that the DOD has defined the Mission Assurance Category of the ALMR system as Mission Essential, and considering that the system provides a critical capability in times of emergency, then the service response, restoration and maintenance levels are appropriate and warranted.
DEA	Through participation in the ALMR, DEA has acquired local resources to resolve technical and user issues when they arise.
ALCOM	In some cases the service response, restoration and quality of service levels exceed independent day-to-day operational requirements required for the DOD agencies,. There are no cases where the current service response, restoration and quality of service levels do not meet current DOD day-to-day requirements. However, considering that the DOD has defined the Mission Assurance Category of the ALMR system as Mission Essential, and considering that the system provides a critical capability in times of emergency, then the service response, restoration and maintenance levels are appropriate and warranted.
DOA	Requirements driven by life, health, safety requirements of SOA Agencies, primarily those of the Department of Public Safety and the Department of Transportation.
ATF	N/A

Table I-88. Question 71 Substantiations/Comments

Stakeholder	Question 71, Based on your response to question 70, what has been the associated economic impact?
DOT	To date, the DOD has paid for the O&M on the system so the impact to DOT&PF has been positive form the efficiency standpoint.
AST	Unknown. At this point user agencies have not been required to directly pay those costs.
DPS	Unknown. At this point user agencies have not been required to directly pay those costs.
TSA	None
MOA	No impact. MOA interface with ALMR infrastructure is limited
USARAK	I don't know at this time
FPD	N/A
FFD	unknown

Stakeholder	Question 71, Based on your response to question 70, what has been the associated economic impact?
FNSB	N/A
Eielson	The service components are facing an uphill battle to establish requirements to sustain the system at service levels that exceed their day-to-day missions and as a result have shortfalls in meeting existing service level costs according to the cost share approach and method approved by all stakeholders.
DEA	None
ALCOM	The service components are facing an uphill battle to establish requirements to sustain the system at service levels that exceed their day-to-day missions. As a result, they have shortfalls in meeting existing service level costs according to the cost-share approach and method approved by all stakeholders.
DOA	Consortium model provides for the most economical means of providing required levels of service on a limited array of available frequencies.
ATF	N/A

Table I-89. Question 72 Substantiations/Comments

Stakeholder	Question 72, Based upon the national goals and objectives to establish governance and implement, operate and maintain standards-based systems by government agencies, have you faced any legal impediment to being able to obtain appropriations to sustain maintenance, system management and operations management services based upon the SLA?
DOT	Not to my knowledge.
USARAK	Yes, there are challenges in justifying funding to meet service level requirements beyond what DOD needs
FNSB	N/A
Eielson	We are not aware of any legal issues.
ALCOM	The service components have stated that they face a legal challenge in supporting a level of service, restoration and response that exceeds their day-to-day requirements. This is further compounded by the lack of formal directives that require them to sustain at the system day-to-day based upon emergency response missions and roles.
ATF	N/A
Elmendorf	DOD appropriations work differently.

Table I-90. Question 73 Substantiations/Comments

Stakeholder	Question 73, Considering the alternative of implementing and operating independent government LMR systems that attempt to comply with the national goals and objectives, would there be a need for government agencies to establish other service level agreements, and possibly sustain their communication system at a higher service level or a higher quality of service than is currently required?
AST	I don't see why we would need to meet a higher SL standard.
DPS	I don't see why we would need to meet a higher SL standard if we transitioned to a stand alone separate system.
USARAK	Interoperable networks are interdependent networks, so yes there would be a need to establish service level agreements/understandings to support interoperability.
FNSB	N/A

Stakeholder	**Question 73, Considering the alternative of implementing and operating independent government LMR systems that attempt to comply with the national goals and objectives, would there be a need for government agencies to establish other service level agreements, and possibly sustain their communication system at a higher service level or a higher quality of service than is currently required?**
Eielson	It is logical to surmise that in order to meet a state of readiness based upon the collective needs of government agencies to have and sustain interoperable communications that are on-demand, in real time and secure, that service levels agreements would be logically required. Other wise independent agencies would sustain their systems at differing levels of readiness, and apply restoration and response levels that meet less than mission essential or mission critical systems status. This would most likely result in critical communications failures during emergency response situations when system quality of service, response and restoration levels need to be at their highest.
ALCOM	It is logical to surmise that in order to meet a state of readiness based upon the collective needs of government agencies to have and sustain on-demand, in-real-time and secure interoperable communications that service levels agreements would logically be a requirement. Otherwise, independent agencies would sustain their systems at differing levels of readiness and apply restoration and response levels that fail to meet mission essential or mission critical system status. This would most likely result in critical communications failures during emergency response situations when system quality of service, response and restoration levels need to be at their highest.
DOA	Agreements would be required to establish some level of minimum frequency sharing alternatives and service levels unachievable with independent systems.
ATF	N/A
Elmendorf	Is it realistically possible to exceed 99.999% ?

Table I-91. Question 74 Substantiations/Comments

Stakeholder	**Question 74, Should government agencies consider the cost of maintaining service/restoration levels and quality of service levels at a level required to meet emergency response mission essential or mission critical support levels as an inherent responsibility, regardless of what their day-to-day service level and quality of service level requirements are?**
AST	It doesn't matter if the system works fine on a day to day basis if it fails just when you really need it.
DPS	It doesn't matter if the system works fine on a day to day basis, if it fails just when you really need it.
USARAK	Yes, I believe they do have an inherent responsibility to meet the standards that they set
FNSB	N/A
Eielson	Government agencies should consider the sustainment of service quality, response and restoration levels necessary to support emergency response situations on a day-to-day basis. There is a cost for preparedness and it is done every day, for example redundant/backup circuits are obtained for day-to-day systems, to ensure they are available to meet mission needs during emergency situations. Government agencies should sustain the system at levels consistent with the highest mission assurance category for which the system will support mission needs, even if that category is not at that level under day-to-day operations.

Stakeholder	**Question 74, Should government agencies consider the cost of maintaining service/restoration levels and quality of service levels at a level required to meet emergency response mission essential or mission critical support levels as an inherent responsibility, regardless of what their day-to-day service level and quality of service level requirements are?**
ALCOM	Government agencies should consider the sustainment of service quality, response and restoration levels necessary to support emergency response situations on a day-to-day basis. There is a cost for preparedness and it is done every day. For example redundant/backup circuits are obtained for day-to-day systems, to ensure they are available to meet mission needs during emergency situations. Government agencies should sustain the system at levels consistent with the highest mission assurance category for which the system will support mission needs, even if that category is not required for day-to-day operations.
DOA	SOA service level requirements are mission essential and, with some agencies, mission critical.
ATF	N/A

Table I-92. Question 75 Substantiations/Comments

Stakeholder	**Question 75, What is the overall economic impact to your organization resulting from compliance with the SLA?**
DOT	None to date. However, I have been told that will change next year. Prior to ALMR, DOT&PF's annual radio Operations and Maintenance costs were $261K per year. The latest estimate is $18.00 dollar per radio per year. DOT&PF's cost for ALMR appears to be about $281K per year. This is only an 8% increase in 7 years, however it does not reflect our true cost for the remaining conventional radios at 27 M&O stations. This cost will be an additional $75.8K per year for a total of $356.8K per year.
AST	Unknown.
DPS	Unknown.
TSA	None
MOA	No impact
USARAK	Minimal impact
FPD	N/A, as the same standards would be used regardless
FFD	unknown
FNSB	N/A
Eielson	The latest TCO provides a portion of the cost impact, however the TCO does not completely capture all of the tangible, intangible, direct and indirect costs associated with managing and executing service levels.
DEA	The economic impact has been monumental but required for DEA nationwide.
ALCOM	The latest TCO provides a portion of the cost impact. However, the TCO does not completely capture all of the tangible, intangible, direct and indirect costs associated with managing and executing service levels.
DOA	See previous "overall economic impact" responses above.
ATF	N/A
Elmendorf	Unknown

Table I-93. Question 76 Substantiations/Comments

Stakeholder	**Question 76, Are the shared system approach and the idea that a fair and equal provider of services (outsourced vs. stakeholder provided) is required to provide unbiased and balanced shared system management and operations management services, a valid requirement?**
USARAK	Yes, it is a valid requirement

Stakeholder	**Question 76, Are the shared system approach and the idea that a fair and equal provider of services (outsourced vs. stakeholder provided) is required to provide unbiased and balanced shared system management and operations management services, a valid requirement?**
FFD	Higher the gov. level the bigger the share
FNSB	N/A
Eielson	The OMO is not necessary for DOD
ALCOM	This approach is logical and appropriate. Otherwise, the potential for conflict would be ever present as independent agencies must respond to missions and priorities that come from within their own organizations. To do otherwise would result in direct conflicts of interest, and would most likely create internal and external conflict. Having a neutral source that is focused on the equities of the combined needs of the stakeholders provides an even-handed approach and significantly reduces conflict among the stakeholders. Further, these functions focus on the sustainment of the stakeholders original goal of on-demand, in-real-time, secure interoperable communications, as well as the sustainment of the system to provide interoperability equally for all stakeholders.
DOA	Self-evident per "unbiased and balanced" qualifiers.
ATF	N/A
Elmendorf	In a shared system such as ALMR I believe that it is.

Table I-94. Question 77 Substantiations/Comments

Stakeholder	**Question 77, How do the outsourced shared services for the SMO and OMO, as described in the government's Statement of Work, and those services as defined in their respective CSPs, meet services required to manage the shared system infrastructure and operation?**
FNSB	N/A
DEA	Information and Network security is compromised.
ALCOM	The SOW was defined by the User Council and is based upon the Service Level Agreement and the operational management needs of the system to meet the stakeholders collective needs. The CSPs provide a further explanation of those services in terms of what services are provided, the way in which the customer requests those services, the way and the time frame in which those services are executed, and the process for reporting and reconciling complaints. The CSPs serve to clearly provide and set expectations of the customer and the service provider, and provide a very clear understanding of what the exact services are that the customer is receiving.
DOA	Provides efficiencies not achievable otherwise.
ATF	N/A

Table I-95. Question 78 Substantiations/Comments

Stakeholder	**Question 78, Considering the alternative of operating and maintaining independent government LMR systems, would the same system management and operations management services be required?**
AST	One cannot know this answer. Elected decision makers would decide.
DPS	One cannot know this answer.
USARAK	From our standpoint, it would probably be provided from within the government
NSFSA	Doesn't matter who does it. The cost and quality matter.
FNSB	N/A
Eielson	A mix of government personnel and contractors who already perform LMR maintenance and management
DEA	Government and contract personnel who maintain a security clearance.

Stakeholder	Question 78, Considering the alternative of operating and maintaining independent government LMR systems, would the same system management and operations management services be required?
ALCOM	Since the respondent does not, and would not, own their own infrastructure but uses the infrastructure of the host installation, this question cannot be answered. However, from a hypothetical standpoint it would most likely be a mixture of government and contract personnel performing these services. This is typically the case since DOD does not maintain trained LMR technicians as a normal career field, and would thus require outsourced contract maintainers. This may also be the case for systems management services. Whereas operations management services could be either government or contract personnel.
ATF	N/A

Table I-96. Question 79 Substantiations/Comments

Stakeholder	Question 79, Based on your response to question 78, would they be performed primarily by government personnel or outsourced contract personnel?
AST	One cannot know this answer. Elected decision makers would decide.
DPS	One cannot know this answer.
USARAK	From our standpoint, it would probably be provided from within the government
NSFSA	Doesn't matter who does it. The cost and quality matter.
FNSB	N/A
Eielson	A mix of government personnel and contractors who already perform LMR maintenance and management
DEA	Government and contract personnel who maintain a security clearance.
ALCOM	Since the respondent does not, and would not, own their own infrastructure but uses the infrastructure of the host installation, this question cannot be answered. However, from a hypothetical standpoint it would most likely be a mixture of government and contract personnel performing these services. This is typically the case since DOD does not maintain trained LMR technicians as a normal career field, and would thus require outsourced contract maintainers. This may also be the case for systems management services. Whereas operations management services could be either government or contract personnel.
ATF	N/A

Table I-97. Question 80 Substantiations/Comments

Stakeholder	Question 80, What is the overall economic impact to your organization resulting from the outsourced services for the SMO and OMO of the shared system infrastructure?
DOT	None to date.
AST	Unknown.
DPS	Unknown.
TSA	None
MOA	MOA is self maintained by our own employees. No impact
USARAK	Minimal impact
FPD	N/A - we'd have to pay for service under any system
FFD	unknown
NSFSA	None
FNSB	N/A

Stakeholder	**Question 80, What is the overall economic impact to your organization resulting from the outsourced services for the SMO and OMO of the shared system infrastructure?**
Eielson	Based upon the cost share approach agreed to by the stakeholders, there is typically an increase in costs over the legacy system, and above the previously administered cost share approach between just the DOD and State Of Alaska. These costs are documented in the legacy system TCO and the latest TCO that examines the ALMR system capital and O&M costs for the shared components of the system.
DEA	None
ALCOM	Based upon the cost-share approach agreed to by the stakeholders, there is typically an increase in costs over the legacy system, and above the previously administered cost-share approach between just the DOD and State of Alaska. These costs are documented in the legacy system TCO and the latest TCO that examines the ALMR System capital and O&M costs for the shared components of the system.
DOA	Again, as with other "overall economic impact" questions, cost efficiencies would not be possible with independent systems.
ATF	N/A
Elmendorf	Under the proposed cost share solution the costs for the OME/SMO appear higher that needed.

Table I-98. Question 81 Substantiations/Comments

Stakeholder	**Question 81, What operational impact and cost impact does the ALMR shared system compliance with DIACAP have on your agency's independent operation?**
DOT	None to date.
AST	I don't know the answer.
DPS	Unknown.
TSA	None
MOA	unknown at this time
USARAK	None, DIACAP are the rules we live under as DOD anyway
FPD	na, no additional costs identified due to DIACAP compliance
FFD	unknown
FNSB	N/A
DEA	The network is susceptible to network infiltration and compromise.
ALCOM	None. DIACAP is a requirement that DOD must comply with, and is considered in the cost of operation.
DOA	None. SOA has same requirements even with independent systems.
ATF	N/A
Elmendorf	Increased due to maintaining DIACAP compliance on an entire system as opposed to a independently owned DOD system.

Table I-99. Question 82 Substantiations/Comments

Stakeholder	**Question 82, State and Local Government Only. Would you describe the sustainment and availability of the ALMR shared system infrastructure as:**
USARAK	Definitely mission essential.
NSFSA	This answer is truly area specific. Our agency maintains it's legacy system and had that to backup the ALMR system. Other agencies do not have that luxury.
FNSB	N/A
DOA	For SOA, ALMR shared system infrastructure provides required mission critical capabilities for state emergency response and incident management.
ATF	N/A

Table I-100. Question 83 Substantiations/Comments

Stakeholder	Question 83, DOD Only. Considering the alternative of implementing and operating independent government LMR systems, would the cost of DIACAP compliance be less, equal or more than that compared to the shared system approach?
USARAK	About the same
FNSB	N/A
Eielson	Considering that an independent operation would equate to a significantly reduced boundary for the system and that the number of controls would be equal based upon the mission assurance category selected, the cost to comply would logically be less.
ALCOM	Considering that an independent operation would equate to a significantly reduced boundary for the System, and that the number of controls would be equal based upon the mission assurance category selected, the cost to comply would logically be less.
ATF	N/A

Table I-101. Question 84 Substantiations/Comments

Stakeholder	Question 84, Considering that the ALMR shared system provides mission essential, or higher, communications services for first responders from federal, state and local government agencies, should implementation and sustainment of the appropriate level of IA compliance be an inherent governmental responsibility of meeting national level goals and objectives for providing communications interoperability?
USARAK	I'm inclined to say yes.
FPD	Which means: Funded at the Federal level.
FNSB	N/A
ALCOM	Mission Assurance Categories are designed to provide a relationship between the system and the mission it supports and the criticality of the data or voice traffic that it carries in relation to the mission being prosecuted. It is logical and necessary to consider, evaluate, and implement controls or accept the risk associated with controls that cannot be mitigated, to insure the system is sustainable to meet associated mission needs.
DOA	Self-evident.
ATF	N/A

Table I-102. Question 85 Substantiations/Comments

Stakeholder	Question 85, What is the overall economic impact to your agency resulting from the DOD implementation and sustainment of IA compliance on the shared ALMR system?
AST	Unknown.
DPS	Unknown.
TSA	None
MOA	Little or none to date. Long term costs are unknown
USARAK	Minimal impact
FPD	N/A
FFD	unknown
FNSB	N/A

Stakeholder	Question 85, What is the overall economic impact to your agency resulting from the DOD implementation and sustainment of IA compliance on the shared ALMR system?
Eielson	The execution of Information Assurance measures to comply and sustain a system to meet the mission assurance category assigned raises the cost of LMR systems over traditional legacy systems that were not previously required to comply with DOD IA policies, and were not implemented to fulfill the added mission task of Defense Assistance to Civil Authorities, nor designed to comply with national framework for interoperability goals and objectives. The cost of conducting the information assurance certification and accreditation process as well as the cost to sustain that activity is captured in the latest TCO under historical and operational costs of the system. These costs are not totally conclusive of all tangible, intangible, direct and indirect costs that are associated with the Information Assurance process, but captures the contract services associated with this process.
DEA	None
ALCOM	The execution of Information Assurance measures to comply and sustain a system that meets the Mission Assurance Category assigned raises the cost of LMR systems over traditional legacy systems. These legacy systems were not previously required to comply with DOD IA policies, and were not implemented to fulfill the added mission task of Defense Assistance to Civil Authorities, nor were they designed to comply with the national framework for interoperability goals and objectives. The cost of conducting the information assurance certification and accreditation process, as well as the cost to sustain that activity, is captured in the latest TCO under historical and operational costs of the System. These costs are not totally inclusive of all tangible, intangible, direct and indirect costs that are associated with the Information Assurance process, but captures the contract services associated with this process.
DOA	See previous responses to "overall economic impact" questions.
ATF	N/A
Elmendorf	Higher overall costs.

Table I-103. Question 86 Substantiations/Comments

Stakeholder	Question 86, Do you believe these studies accurately captured the legacy system costs, the historical costs and the projected future costs?
TSA	N/A
USARAK	I don't have reason to believe they did not
FNSB	N/A
ALCOM	It is understood that not all costs are captured. The intent of the first TCO was primarily to examine the shared system costs, and not the total costs associated with each individual stakeholder. There has not been a study that examines and captures the total costs per stakeholder and then combines those costs to identify a "total" cost analysis. However, based upon the intended purpose of the TCOs, we believe them to be accurate and complete.
ATF	N/A
Elmendorf	Did not see figures for Legacy costs.

Table I-104. Question 87 Substantiations/Comments

Stakeholder	Question 87, Considering the alternative of operating independent government LMR systems, does your agency have any supporting information that would substantiate the total cost of this approach?
USARAK	I don't within USARAK, though the 59th Sig Bn may have
FNSB	N/A

Stakeholder	**Question 87, Considering the alternative of operating independent government LMR systems, does your agency have any supporting information that would substantiate the total cost of this approach?**
ALCOM	A system design and analysis focused primarily on DOD and the State of Alaska as primary stakeholders, was conducted to examine the individual requirements with regard to separating the shared ALMR system into independent systems. There is an associated White Paper that examines the issues and alternative solutions, and also recommends a solution for the DOD and the State of Alaska. This document substantiates the capital cost of implementing these independent solutions, but does not totally examine the O&M costs through their lifecycle.
DOA	Current draft of System Design System Analysis of DOD separation study.
ATF	N/A

Table I-105. Question 88 Substantiations/Comments

Stakeholder	**Question 88, Considering the alternative of operating independent government LMR systems, and based upon your understanding of national policy, goals and objectives, total cost of ownership, operational capabilities, benefits or detractors of the shared system approach and the economic impact to your organization, is it feasible to sustain participation in ALMR?**
AST	ALMR is the system we have, and it works well within the scope of its original intent (in other words, it doesn't solve all of Alaska's land mobile radio needs) and it is inconceivable that a separate system could be built for AST that would meet the needs identified earlier, in anything like a cost effective fashion.
DPS	ALMR is the system we have, and it works well within the scope of its original intent (in other words, it doesn't solve all of Alaska's land mobile radio needs and wasn't designed to) and it is inconceivable that a separate system could be built for DPS that would meet the needs identified earlier, in anything like a cost effective fashion.
USARAK	Not just feasible, I think it is essential
FFD	depends on cost
NSFSA	The answer to this question is really a maybe. With our current conventional system we meet the national standard. The ALMR system does it better but may price itself out of being viable
FNSB	N/A
ALCOM	It is feasible and logical. The impact of separating the ALMR shared system and implementing independent systems is unreasonable, and a colossal waist of government funding. The loss of capability and the lost of synergy associated with the shared system approach would have a grave impact operationally on the ability of government agencies to provide and sustain interoperable communications at the level now attained. When counting the sunk costs already associated with ALMR, and adding to it the additional costs to implement independent systems, the cost impact is enormous. In fact, the costs of the provided solutions exceed the cost to sustain the existing ALMR system through its lifecycle in a shared approach.
DOA	Subject only to budgetary limitations that need to be assessed annually.
ATF	N/A

Table I-106. Question 89 Substantiations/Comments

Stakeholder	**Question 89, Do you believe the Cost Share process followed by the EC to derive a cost-share approach and method was equitable and fair?**
USARAK	Both fair and equitable
FPD	Although I'm not necessarily satisfied that it is fully justified.
FFD	higher level , higher cost

Stakeholder	Question 89, Do you believe the Cost Share process followed by the EC to derive a cost-share approach and method was equitable and fair?
FNSB	N/A
ALCOM	All stakeholders were provided fair and equal access and participation in the process, and all stakeholders were encouraged to provide courses of action that complied with their best interests. The process was conducted over a reasonable period of time, with participation at various levels from user, to mid management, through senior-leadership levels. The process provided a fair and equitable vetting of proposed courses of action by all stakeholders, and resulted in compromises by all to reach an agreed upon approach and method.
ATF	N/A

Table I-107. Question 90 Substantiations/Comments

Stakeholder	Question 90, Considering what it costs to provide other forms of communications in support of your agency day-to-day missions (telephone, subscriber cell phone, data services, etc.), is the estimated cost per month per subscriber reasonable?
USARAK	Reasonable
FFD	cost of non daily used radio's
NSFSA	for many agencies the cost per unit may price them out of the ability to pay. Some agencies may be able to afford the costs but the goal of the ALMR system is interoperability and if we price folks out this may defeat the purpose of the system
FNSB	N/A
DEA	The cost is more than reasonable for the services received.
ALCOM	An examination of the legacy system TCO finds that the cost per radio under independent, legacy, non-standard wideband systems exceeds the shared costs identified in the latest TCO and the resulting cost share approach and method in most cases . Also, considering the costs of services such as Blackberry data and cell services, as well as the cost of independent LMR systems that would provide a far less capable and less mature interoperability robustness, the costs are very fair and reasonable.
ATF	N/A
Elmendorf	As a general rule of thumb, yes, this is a reasonable price. But now that we are paying on a per radio basis, we have to review whether or not each of our radios needs to be on the ALMR network. Of the 2000 radios we have on the system, only a couple hundred would need to be a part of ALMR. If we pulled 1800 radios from the network, this would drive up the per radio cost for everyone.

Table I-108. Question 91 Substantiations/Comments

Stakeholder	Question 91, Based upon your understanding of the overall capabilities previously described in this survey, and provided by the ALMR partnership and shared infrastructure approach, is a cost of $18.00 per subscriber per month warranted and cost effective?
USARAK	Would expect the price per month is driven by cost to operate.
NSFSA	Is the cost warranted, yes based on the formula that was developed however my comment in 90 applies here also
FNSB	N/A
DEA	Based on our agency's inherent needs and compliance with federal mandates, the cost per subscriber is cost effective and warranted.
ALCOM	The answers given in prior responses substantiate this position
DOA	Reference Benchmark Analysis within most recent Total Cost of Ownership Study.

Stakeholder	**Question 91, Based upon your understanding of the overall capabilities previously described in this survey, and provided by the ALMR partnership and shared infrastructure approach, is a cost of $18.00 per subscriber per month warranted and cost effective?**
ATF	N/A
Elmendorf	It is cost effective at the moment, but keep in mind that if SMO/OMO costs stay the same, and we pull a sizeable number of radios off the system, that this price will go up.

Table I-109. Question 92 Substantiations/Comments

Stakeholder	**Question 92, The cost share approach and method are renewable on an annual basis, providing the ability of the stakeholders to re-evaluate the cost share to ensure that it continues to fulfill the collective needs of all users/agencies. The cost share agreement is also executed annually and addresses the cost share for the next State fiscal year. Is there any economic impact on your agency by this approach?**
DOT	The Operation and Maintenance costs are a part of doing business, but it may come to the point where other budget items are reduced to meet this obligation.
AST	Provisions will have to be made to request adequate funding.
DPS	Provisions will have to be made to request adequate funding.
USARAK	Minimal cost impact , may have to look at number of subscriber devices
NSFSA	only to the extent of any changes and when we are notified. We do not follow the State fiscal year
FNSB	N/A
Eielson	This process is the most appropriate approach to ensure that costs are considered and checks and balances are executed to ensure cost sharing approaches meet the collective needs of the stakeholders. There is an economic impact that results from this approach. Having a fixed cost set over a lifecycle enables an easier budgeting and program operation memorandum process. That is the ability to project costs over periods of time. The reexamination of costs and cost share approaches opens the door for protracted disputes and can result in both increased and decreased costs to stakeholders given within a short window, considering the appropriation processes that must take place. This process also increases the cost of personnel and perhaps services to respond to the execution and changes resulting from potential changes annually. Because the approach is new, stakeholders may find that a cost share can be reached that does not require a contacted annual rework, but simply a review and renewal.
ALCOM	This process is the most appropriate approach to ensure that costs are considered, and checks and balances are executed, to ensure cost-sharing approaches meet the collective needs of the stakeholders. There is an economic impact that results from this approach. Having a fixed cost, set over a lifecycle, enables an easier budgeting and program operation memorandum process. That is the ability to project costs over periods of time. Considering the appropriation processes that must take place, the re-examination of costs and cost-share approaches opens the door for protracted disputes and can result in both increased and decreased costs to stakeholders given within a short window. This process also increases the cost of personnel and perhaps services to respond to the execution and changes resulting from potential annual changes. Because the approach is new, stakeholders may find that a cost share can be reached that does not require a annually-contracted rework, but simply a review and renewal.
DOA	Annual review and execution is the only viable alternative for all stakeholders given the limitations of annual budget authorizations.
ATF	N/A

Table I-110. Question 93 Substantiations/Comments

Stakeholder	Question 93, Is there sufficient time to budget and receive an appropriation to meet agreed upon costs?
DOT	Next year's budgets were submitted prior to receiving the cost estimate. It will have to be submitted as a supplemental request.
MOA	MOA's unique position regarding cost share makes us unqualified to comment on this question
USARAK	Yes, I believe so
FFD	Time-yes, money-no
NSFSA	See above
FNSB	N/A
Eielson	Provided the agency has projected the costs in the budget over a multi-year timeframe and funds are programmed and approved based upon previous years requirements.
ALCOM	This is dependent, provided the agency has projected the costs in the budget over a multi-year timeframe and funds are programmed and approved based upon previous years requirements. Changes to the cost, either up and down, drive other processes which can reasonably be executed in the timeframe provided. If however, projected costs are not programmed over a multi-year process and approved and funded at prior year levels, there probably will not be sufficient time to amend the process and receive the funding without some other measures, such as the unfunded requirement approach. This places an added level of risk upon all of the stakeholders collectively. If one or more stakeholder cannot obtain funding, or has significant shortfalls, this effect is felt by all and may require the other stakeholders to absorb costs that they had not programmed.
ATF	N/A
Elmendorf	Unknown - We have seen several revisions of this plan and are unsure what the exact way ahead will be.

Table I-111. Question 94 Substantiations/Comments

Stakeholder	Question 94, Based upon the cost share approach, do you feel there are any inherent liabilities or risks that make it unacceptable to your agency?
USARAK	Not any more than cell or other like commercially leased services
FPD	Given the mentality of our local governmental funding body, I think we face a significant risk of being told "It's the State of Alaska's system- if they want local municipalities to use it, then the State should pay for ongoing costs"
FFD	cost is ?
FNSB	N/A
Eielson	Other than paying for unnecessary OMO functions.
ALCOM	All risks are acceptable other than the potential risks identified above in question 93. This is based upon the idea that agencies have a validated requirement and are seeking funding in the budget process to meet that requirement, and the provisions provided in the Cooperative Agreement that protects a stakeholder who properly, and in a timely manner, seeks an appropriation.
ATF	N/A
Elmendorf	Yes, as stated several times above, we have many radios on the system that do not need the ALMR capability. This drives our cost up, but once we pull these radios off the system, the per radio cost will go up.

Table I-112. Question 95 Substantiations/Comments

Stakeholder	Question 95, What is the overall economic impact to your agency as a result of the approved cost share approach and method?
DOT	DOT&PF will have to budget for the cost, if the cost is not covered at a statewide level by the Department of Administration.
AST	More than $160,000 per year.
DPS	More than $160,000 per year.
TSA	$6665.00 Per year
MOA	no impact
USARAK	I don't know
FPD	It will be significant; at $18.00 per radio per month we're looking at approx. $1,800.00 per month, or $21,600.00 per year.
FFD	unknown
NSFSA	Based on the number of radios my department currently has operating on the system the budget cost for radios would be more that 6 times what is currently budgeted
FNSB	N/A
Eielson	Eielson's cost increased by about $200K
DEA	Aside from having to purchase upgraded subscriber equipment, there has been little or "no" economic impact regarding DEA's migration to ALMR. After some extensive cost analysis was conducted our agency decided becoming a partner in ALMR was the best and most economical course of action to take.
ALCOM	For DOD overall, a decrease in costs over the status quo approach has been realized. For the service components individually, some costs have raised and some costs have declined, yet combined they are still less that what was previously paid prior to a total cost-share approach among all stakeholders.
DOA	Cost sharing under the consortium model provides for efficiencies in operation and maintenance not otherwise attainable.
ATF	N/A
Elmendorf	Much higher annual costs than maintaining independent system.

Table I-113. Question 96 Substantiations/Comments

Stakeholder	Question 96, Based upon your understanding of the White Paper and associated SDSA, is the information/requirement pertaining to your agency correct?
TSA	Unknown
USARAK	To the best of my knowledge.
FNSB	N/A
Eielson	I have not seen white papers or SDSA. They are not on the ALMR website.
ALCOM	Based upon the conditions and drivers that exist, the solutions are reasonable and appropriate.
DOA	Cost estimates for an SOA independent system are, if anything, too low.
ATF	N/A
Elmendorf	Documents have not been reviewed. Location is Unknown.

Table I-114. Question 97 Substantiations/Comments

Stakeholder	**Question 97, Based on the ALMR partnership approach, the national goals and objectives, the current capabilities, capital investment already made, current shared operations and maintenance costs, the TCO and the findings in the White Paper and associated SDSA, does your agency find it economically feasible and economically sound to cease partnership in ALMR and operation on the shared system infrastructure and to operate an independent government LMR system?**
USARAK	Nether economically feasible or operationally sound
FNSB	N/A
Eielson	Same as above.
ALCOM	As previously defined, the total cost of such a move is unreasonable and should only be undertaken if there is a legal reason for which the partnership could not be sustained. Considering the capital costs involved in the current ALMR System, and adding to that the capital costs of a new independent approach that will deliver less capability, it is not a logical or in the best interest of government agencies collectively and or independently to pursue.
DOA	The lack of available frequencies to sustain a viable independent SOA system alone make the consortium approach the only economically viable alternative.
ATF	N/A
Elmendorf	See answer for 96

Table I-115. Question 98 Substantiations/Comments

Stakeholder	**Question 98, Are there any other topics or issues that we have not addressed in this survey that you would like us to address? If so, please specify.**
DOT	The build out plan did not complete the coverage for the Tok Cutoff, which has commercial hazardous cargo traffic nearly every day of the year. At least two repeaters are required to provide radio coverage to this vital section of the highway network. Another road with daily hazardous cargo traffic is the Dalton Highway. It is imperative that that the Dalton build out is included as part of the Alaska Natural Gas Pipeline project if not sooner. The Department's minimum criteria to determine the need for repeaters in southeast has been that the area supported has at least two of the following: the location has roads on the national highway system, the location has a national highway which crosses the Canadian Border, the location has a certified airport or the location is serviced by the Alaska State Ferry. Southeast Alaska is short three repeaters. One at Sitka and one to provide coverage to Wrangle and Petersburg. Yakutat was not in the most recent plan, however, a forth repeater is required for Yakutat. As with Sitka, Wrangell and Petersburg, Yakutat also meets three of the four criteria.
AST	No.
DPS	No.
FPD	God no!!
FNSB	N/A
Eielson	None
DEA	None
ALCOM	None
DOA	None.
ATF	N/A
Elmendorf	A tiered cost share solution should be considered. This tiered solution would take into account the level of service required, such as geographical and interoperability, and cost would be determined by that level of service.

Table I-116. 99 Substantiations/Comments

Stakeholder	Question 99, With regard to economic impact on your organization, what do you see as your top concerns/issues? Why?
DOT	A supplemental budget appropriation for 2009. To date there have not been any official cost share figures provided for the system operations and maintenance fee each organization which will be required to pay. It is understood that some small and or volunteer organizations will never be able to pay the fee and that it is a cost of interoperability that the larger organizations have a moral obligation to pick up.
AST	Predictability is a key feature in any budget item of this size. The system's ability to strictly account for costs and any year-to-year increases will be critical to achieve the required funding.
DPS	Predictability is a key feature in any budget item of this size. ALMR's system managers must be able to strictly account for funds expended. Furthermore, any year-to-year cost increases will be critical to achieving the required funding.
FPD	The cost-share is obviously the biggest issue of economic concern. I believe there needs to be much more discussion at the State legislative level as to the level of commitment that the state is going to provide to participating municipalities on the ALMR system.
FFD	cost and funding for
NSFSA	For all public sector agencies small or large the benefit of the ALMR system is the interoperability that it provides. However if the cost of being on the system leaves some or many off the system we are defeating the purpose.
FNSB	N/A
Eielson	Cost Share - the per radio charge significantly raised our annual cost. We are also concerned about funding unnecessary functions of the OMO. Please see document below These are the purposed expenditures for the operations Management Office for FY'09. Listed below is equipment and support not required for Government use: Pg. 1 Operations Management Office Manpower $620,000.00 Pg. 4 Other Expenses a. Newsletter $1200.00 b. Website $1200.00 c. Build disparate radio cable, as required $750.00 d. Radio Programming Kits (2) $1,164.00 e. Miscellaneous repairs $1,000.00 Total: $5314.00 Pg. 5 Communication Conferences a IWCE (Las Vegas) $3,500.00 b APCO (Kansas City) $2,500.00 Total: $6,000.00 Pg. 6 Outreach Training a. ALMR Familiarization & Trng- Delta Junction Area $1,063.00 b ALMR Familiarization & Trng- Homer/ Seldovia $1,290.00 c Alaska Council EMS (Juneau) $500.00 d Alaska Council EMS (Anchorage) NC e Alaska Association of Chiefs of Police (Anchorage) NC f Alaska Fire Chief Association (Juneau) $500.00 g User Council Annual meeting (Anchorage) $17,500.00 h ALMR Training Materials & Subscriber Flip Bks $5,000.00

Stakeholder	Question 99, With regard to economic impact on your organization, what do you see as your top concerns/issues? Why?
	Total: $25,853.00 Miscellaneous Services a SME as required $25,000.00 Catastrophic Natural Events Kits a 78 sites @ 1,000.00 $78,000.00 Grand Total: $760,167.00
DEA	None
ALCOM	The cost share approach for the reasons stated in the appropriate sections, and the legalities of sustaining service levels that exceed independent requirements. It is certainly logical, and prudent, to sustain a collective service level. However the ability to fund levels that exceed an individual agency's requirements must be considered and reconciled in the cost-share processes or exception given by Congress for shared system approaches. There must also be an examination of inherent government responsibilities for preparedness, and whether these responsibilities allow the agency to assume higher service levels than those required for day-to-day missions in order to sustain the system at a ready capability for increased mission criticality.
DOA	Without sustaining, and eventually expanding, the ALMR Consortium Project and System, SOA emergency interoperable communication requirements as well as FCC Narrowband mandated requirements could not be met.
ATF	NOT AVAILABLE
Elmendorf	The per radio cost share. We'll be unable to justify paying for all 2000+ radios being on the ALMR system when we could possibly support our own system for less money.

Attachment J

Synthesized Stakeholder Results

This section synthesizes stakeholder comments from individual stakeholder comments reported in Attachment I, one table per Stakeholder Survey topic as outlined in Table J-1.

Table J-1. Survey Topics, Associated Questions, and Table References

Survey Topic	Checkbox Questions with Comments	Textbox (Comment-only) Questions	Consolidation Tables	Synthesis Table
1 Compliance with National Policy?	1-8	9	G-3, G-18-26	H-2
2 Narrowband Mandates?	10-13	14	G-4, G-27-31	H-3
3 Interoperability Governance?	15-19	20	G-5, G-32-37	H-4
4 Interoperability SOPs?	21-28	29	G-6, G-38-46	H-5
5 Interoperability Technology?	30-34	35	G-7, G-47-52	H-6
6 Interoperability Training and Exercises?	36-46	47	G-8, G-53-64	H-7
7 Interoperability Usage?	48-54	55	G-9, G-65-72	H-8
8 Interoperability Maturity?	56-61	62	G-10, G-73-79	H-9
9 ALMR User Council Charter?	63-68	69	G-11, G-80-86	H-10
10 ALMR Service Level Agreement?	70, 72-74	71, 75	G-12, G-87-92	H-11
11 ALMR Operations & Systems Mgt?	76-79	80	G-13, G-93-97	H-12
12 ALMR Information Assurance?	82-84	81, 85	G-14, G-98-102	H-13
13 ALMR Total Ownership Cost	86-88	None	G-15, G-103-105	H-14
14 ALMR Cost Share Process	89-94	95	G-16, G-106-112	H-15
15 ALMR Separation Study	96-97	None	G-17, G-113-114	H-16
16 Any other topics or issues?	None	98	G-18, G-115	H-17
17 Top 3-5 Concerns/Issues?	None	99	G-19, G-116	H-18

J.1 Compliance with National Policy

J.1.1 Stakeholder Comments

Table I-3 and Table I-18 through Table I-26 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-2 synthesizes these responses.

Table J-2. Synthesis of Compliance with National Policy Comments, Questions 1-9

Question	Comments
1	All responded Yes, ALMR is in compliance with national policy.
2	All responded with at least Meets, ALMR compliance with these policies, goals and objectives meet you agency's operational requirements, with 23% saying ALMR exceeds the agency's requirements.
3	Respondents highly attributed success in receiving federal grants to compliance with National Policy
4	Respondents highly rated that compliance effectively increases safety and security response with appropriate levels of interoperability
5	All respondents believed it better to maintain the ALMR enterprise than to operate separate systems.
6	NA
7	All but two respondents agreed they incurred increased cost for compliance and interoperability
8	All but one agreed that costs are warranted and considered inherent as part of daily operations
9	Many of the respondents were unsure what the economic impact of complying with national policies other than it would be an increased cost.

On the whole, all stakeholders recognized that ALMR is in compliance with national policy and that compliance provides benefits that sometimes even exceed their requirements. Several respondents identified benefits associated with participation in ALMR. They cited participation as the impetus to ensure their organizations' policies and operations were NIMS compliant. Another cited ALMR's dual use in providing ready access to all levels of government in response to Homeland Defense events and how it provides utility in support of USARAK TRO missions on a daily basis. Many stakeholders cited dramatic improvements with interoperability compared to legacy systems as a result of ALMR. One state respondent said that ALMR had been developed at full Level 6 standards of interoperability and that without the enterprise approach they would not have achieved this level of interoperability and it would not have been possible either economically or functionally. Another significant benefit was their ability to acquire federal grants to offset state, borough and city expenditures for equipment. This would have created financial hardships for many smaller entities.

In response to reverting to separate systems, stakeholders stated that the current level of cooperation among varying levels of government is at the highest it's ever been. The common link of ALMR brings stakeholders together to enhance understanding of each others roles and overall missions. This would not be evident with independent systems. Many felt transition to separate systems would result in taking interoperability "a number of steps backward." One stakeholder mentioned how in the past, legacy systems couldn't accommodate communication between other state agencies much less other emergency response agencies. Standards based shared technology, when operated under agreed upon and exercised policies, protocols and standard procedures exceeds separate independent systems operated under the same conditions.

Several respondents expressed concern that reverting to independent LMR systems would be too expensive and interoperability would be degraded. Others were concerned about costs for the current construct. While they considered compliance with National Policy a benefit, it does have an impact on borough, smaller city and volunteer organization budgets. There was concern about replacement asset cost, maintenance and whether the cost share allocation may become cost prohibitive in the future. Large stakeholders, such as DOD, cited a marked increase in the cost of procuring, implementing, operating and maintaining LMR systems. These costs are continuously competing with other mission requirements for limited funding. In the absence of a specific mandate to maintain a specified level of and compliance, leadership is challenged with funding communication preparedness versus other directed needs.

J.1.2 Government Response

Concur.

J.2 Narrowband Mandates

J.2.1 Stakeholder Comments

Table I-4 and Table I-27 through Table I-31 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-3 synthesizes these responses.

Table J-3. Synthesis of Narrowband Mandates Comments, Questions 10-14

Question	Comments
10	All but one agreed ALMR met narrowband mandates. DOT felt this would be achieved once all their equipment had been converted.
11	All but one felt that ALMR narrowband compliance meets or exceeds their operational requirements.
12	73% stated narrowband mandate, economic impact, national policies and interoperability influenced their decision to participate in ALMR vice maintaining/replacing legacy systems.
13	Almost half stated that moving from ALMR to independent operations would not affect their compliance with narrowband mandates.
14	Many of the respondents were unsure what the economic impact of complying with narrowband mandates other than it would be an increased cost. Others said it was minimal.

The vast majority of stakeholders felt that ALMR helped them achieve compliance with Narrowband Mandates. It was also a significant incentive for joining the ALMR enterprise as opposed to creating or maintaining an independent system. Stakeholders also mentioned that other decision drivers such as greater interoperability and grants for investment equipment were added benefits that complemented their objective to become Narrowband compliant.

While approximately half the respondents felt that moving to an independent LMR would not affect their Narrowband compliance, several stated they would incur significant impacts, aside from cost, in attaining/maintaining compliance. Considering ALMR shares the frequency spectrum among Federal, State, and Local stakeholders, in reality there would be significant challenges for most members in establishing separate compliant LMR systems. For the majority of stakeholders the cost of compliance, funded through grants or appropriations, has been greater for both capital investment and sustainment.

J.2.2 Government Response

In a separation scenario under narrowbanding, the frequency bands are rebanded to 12.5 KHz of separation, down from the existing 25KHz of separation. This requires that not only new equipment, but new licenses, be obtained. For those not on ALMR, the capital cost of the equipment, the new licensing and any other upgrades required can be significant. For those on ALMR, there will be no impact or additional cost because ALMR already operates with 12.5KHz spacing.

J.3 Interoperability Governance

J.3.1 Stakeholder Comments

Table I-5 and Table I-32 through Table I-37 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-4 synthesizes these responses.

Table J-4. Synthesis of Interoperability Governance Comments, Questions 15-20

Question	Comments
15	All respondents stated ALMR was operating the highest level of governance structure defined on the SAFECOM Interoperability Continuum
16	All stated the ALMR governance model provided the required level of representation for their agency.
17	All but one agreed the need for other governance-like structure would be required in the absence of ALMR
18	All but one stated the cost and function of operating an EC/SIEC would be necessary for the overall success of ALMR
19	All agreed this cost and function should be considered a continuing inherent duty of government to facilitate preparedness and interoperability among government agencies
20	Most respondents stated the economic impact of resulting from achieving and sustaining the ALMR level of governance has been minimal to their organizations.

All stakeholders agreed that the ALMR EC conformed to national guidance by representing all government agencies in addressing interoperable communications between all levels of government and non-government organizations that stakeholders must interoperate with. Most stakeholders stated that some form of Interoperability Governance would still be required if they operated independent LMR systems. They recognize participation is necessary to generate cooperation and coordination among users, establish executive level policy, and goals and objectives to establish and maintain interoperable communications. Likewise, they understood they would have much greater challenges managing coordination between multiple independent systems. They recognized being members in governance committees carried with it a minimal cost for participation but that the benefits outweighed this cost. One stakeholder cited that in past history the lack of deliberative and proactive collaboration and planning to meet emergency response missions has been a leading factor in communications interoperability failure.

A DOD stakeholder mentioned concern that the SIEC function of the EC is primarily state and local government focused even though DOD has a liaison relationship that provides them a voice. They felt the SIEC has not functioned as intended by the FCC and lacks formal structural commitment of the key stakeholders that should drive its purpose. Another stakeholder agreed their agency was being represented but felt representatives of non-federal stakeholders should rotate on a yearly basis to ensure all federal stakeholders are represented fairly.

J.3.2 Government Response

The function of the ALMR Executive Council is independent of the SIEC. The SIEC function is primarily focused on the use and management of public safety spectrum resources. As such, the SOA Public Safety Commissioner, along with local government representatives, comprise the SIEC. With regard to representation, the User Council Charter, which governs member representation, was developed, refined and approved by the User Council. If changes to that charter need to be made, such requests should be brought to the User Council for consideration.

J.4 Interoperability SOPs

J.4.1 Stakeholder Comments

Table I-6 and Table I-38 through Table I-46 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-5 synthesizes these responses.

Table J-5. Synthesis of Interoperability SOPs Comments, Questions 21-29

Question	Comments
21	All but one agreed that ALMR is operating at the most mature level on the continuum with relation to initiation and use of SOPs.
22	All stated the level of NIMS integration into the SOPs met their operational requirements
23	All stated the development and execution of SOPs effectively increases safety and security and facilitates interoperability and that these elements have been met and the cost of implementing and maintaining NIMS-integrated SOPs is required and warranted.
24	All stated the cost and function of SOPs should be considered an inherent government responsibility to facilitate preparedness and interoperability among government agencies.
25	All stated that developing and maintaining NIMS-integrated SOPs would be a requirement even when operating separate LMR systems.
26	All stated that developing and maintaining NIMS-integrated SOPs would have a continuing economic impact on their organization whether a member of ALMR or on separate systems.
27	67% stated that prior to ALMR and its governance that there were no NIMS-integrated SOPs, TICPs and protocols established.
28	All respondents stated the capability to establish and sustain communication interoperability among all agencies has either increased or increased significantly
29	Responses varied regarding cost impacts of their NIMS integration into SOPs. Some cited increases, some minimal, while others couldn't make a determination.

All but one agreed that ALMR is operating at the most mature level on the continuum with relation to initiation and use of SOPs and this level satisfies their operational requirements. The dissenting stakeholder felt SOPs were still evolving. Several stated that having advanced technology without SOPs to control usages hampers the ability to maximize system capabilities, especially during critical events. All agree that SOPs are the foundation for successful interoperable communications between stakeholders and the cost to implement and maintain is warranted. The ALMR enterprise from its inception used its understanding of system design and technology to create SOPs to address procedures for multi-agency and multi-jurisdictional communications during emergency responses. The fact that ALMR SOPs apply to all stakeholders eliminates the challenge associated with integrating and coordinating SOPs between multiple independent LMR systems. According to one stakeholder, this process of governance created an environment that fosters deliberative discussion, planning and establishment of standard protocols, processes and procedures. This has afforded all stakeholders a much greater level of preparedness via interoperable communications than existed prior to ALMR.

One stakeholder stated that while in general SOPs are followed, expressed concerns regarding rare instances where decisions were made by the Office of Management and Operations without consulting either the Executive Council or the User Council. In one case, a small volunteer user was given temporary access to the system without prior approval. In another case, repeater resources were re-allocated without prior approval to change the build-out plan.

J.4.2 Government Response

The day-to-day roles, responsibilities and decision-making authority of the ALMR Operations Management Office are defined in the ALMR Cooperative Agreement (http://www.ak-prepared.com/almr/pdf/20071214_21Nov07CoopAgreement.pdf). Under the Cooperative Agreement, most day-to-day decisions do not require User Council or Executive Council approval. Furthermore, all changes to the buildout plan are accomplished in accordance with the Change Management Procedure (http://www.ak-prepared.com/almr/pdf/20080206_ChgMgt

Proc300-2V1.pdf) which requires, and has received, Executive Council approval for all changes to the buildout plan.

J.5 Interoperability Technology

J.5.1 Stakeholder Comments

Table I-7 and Table I-47 through Table I-52 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-6 synthesizes these responses.

Table J-6. Synthesis of Interoperability Technology Comments, Questions 30-35

Question	Comments
30	All but one respondent felt the ALMR was operating at the highest level of technology on the continuum.
31	All but one respondent stated ALMR was the correct level of commitment and investment in a technical solution for their agency and stakeholders combined.
32	None of the respondents believed they could obtain the same level of interoperability if all ALMR stakeholders employed independent government LMR systems.
33	None of the respondents believed their agency could implement an independent and equivalent capability for the same or less capital investment.
34	All respondents felt the cost of obtaining, operating and maintaining technology solutions that comply with national policy, goals and objectives should be an inherent governmental responsibility and part of their day to day operational requirements for communications.
35	Respondents generally felt that implementing separate LMR systems would increase their costs and result in much less operational capability.

All but one respondent felt the ALMR was operating at the highest level of technology on the continuum. Their concerns are listed in the following paragraph. The unanimous consensus regarding independent systems was that interoperability would suffer and the same level could not be achieved as economically. One pointed out that the ALMR shared technology approach allows access to technology, infrastructure, capabilities and access to site real property that would be impractical and much more costly collectively with independent systems. Even if these hurdles were mitigated, there would be a limitation on separate frequencies that are now shared among stakeholders. All respondents agreed that the costs are an inherent government responsibility but one expressed concern which level of government should be responsible for absorbing this cost and another stated the challenge they faced funding ALMR in competing with other requirements.

One respondent stated the ALMR has purchased, or convinced other agencies and users to purchase substandard equipment, (EF Johnson radios and various other network solutions) that are not easily supported by trunking networks. While the technology is compliant their subscriber equipment has not been reliable. They further stated that in order to relieve some of the economic impact on some agencies, the ALMR should conduct research and development into product Quality of Service, (QoS) before suggesting that agencies acquire specific products and network solutions that do not operate efficiently or effectively on the ALMR.

J.5.2 Government Response

As noted on the ALMR website under the Radios page (http://www.ak-prepared.com/almr/almr_radios.htm):

Data provided is not a certification, implied or otherwise, of any product listed. It is presented to users only as a means of providing information on how each product performed on the ALMR System against the specified protocols of the test. Individuals considering purchasing any radio, regardless of the make/model, are encouraged to request a loaner from the vendor for their own testing and verification purposes. Individual makes/models may have additional features not tested.

Since their inception, the Operations Management Office and the System Management Office have worked with equipment manufacturers that have wanted to test their equipment on the ALMR System. A standard testing script (also on that page) has been developed and refined over time to fairly compare equipment. This has been applied to all radios, including those manufactured by Motorola and those manufactured by EF Johnson. However, no brand has ever been endorsed or recommended – these tests have been strictly pass/fail. The decision as to what types of equipment best meet their cost and operational requirements has always been left to the individual agencies.

J.6 Interoperability Training and Exercises

J.6.1 Stakeholder Comments

Table I-8 and Table I-53 through Table I-64 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-7 synthesizes these responses.

Table J-7. Synthesis of Interoperability Training and Exercises Comments, Questions 36-47

Question	Comments
36	69% of respondents felt that ALMR is operating at the highest level of training and exercise on the continuum
37	All stated that this level of training and exercises met their operational requirements
38	None of the respondents felt that the same level of statewide training and exercises existed prior to ALMR with regard to interoperable communications SOPs and protocols.
39	All respondents stated ALMR has contributed to enhance training and exercises and increased their agency's ability to interoperate with other organizations.
40	All but one respondent stated ALMR participation has resulted in an increase in training and exercises for their agency with regard to communications procedures and protocols.
41	77% of respondents said in the event they would be operating separate LMR systems the level of training and exercises should be increased to meet national policies and objectives to obtain and sustain interoperable communications with other agencies.
42	All but one of the stakeholders that responded said independent training and exercise support could not be provided at the same or lesser costs than ALMR. One dissented by stating a "train the trainer" program would be less expensive.
43	All respondents stated there was a bona fide requirement to sustain proactive deliberative planning preparation and training to support exercise and real world events
44	77% of respondents stated the costs for deliberative planning preparation and training to support exercises should be shared and administered through the OMO.
45	Respondents recognized that training has an operational and economic impact.
46	92% of respondents stated the cost of participating in training and exercises was an inherent governmental duty and the cost should be considered part of the day to day operational cost of communications for their agency.
47	The economic impact of regular training and exercise participation varied between stakeholders.

While the majority of stakeholders felt ALMR was operating at the highest level of training and exercises on the continuum, meeting their operational requirements much more than prior to ALMR, many expressed the utility of even more training. The greatest benefit cited was the fact that ALMR training and exercises has enhanced their ability to interoperate with other

government and non-government agencies. All but one respondent confirmed their exercise activity has increased as a result of ALMR and that the related cost is a worthwhile investment. A wide majority felt that in an environment of independent systems there would be a need for more extensive training at a greater cost. It would be extremely difficult to attain the level of proficiency and experience to achieve ALMR interoperability in a real world event. This is especially true because of the likelihood many agencies may not be employing equipment and procedures that they use on a daily basis.

The vast majority agreed that the cost of participating in training and exercises is an inherent government responsibility. All agreed that sustainment of training and exercising are bona fide requirements but were mixed on whether cost sharing was the best approach. One felt this should be paid through grants from Homeland Security while another expressed concern about sharing this cost if they didn't participate in the exercises due to their operational tempo.

J.6.2 Government Response

Concur.

J.7 Interoperability Usage

J.7.1 Stakeholder Comments

Table I-9 and Table I-65 through Table I-72 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-8 synthesizes these responses.

Table J-8. Synthesis of Interoperability Usage Comments, Questions 48-55

Question	Comments
48	92% of respondents felt ALMR was at the highest level of usage on the continuum
49	All of the respondents stated the ALMR level of usage met or exceeded their day to day operational requirements.
50	All of the respondents stated the ALMR level of usage met or exceeded their emergency response, tactical or incident command communications interoperability requirements.
51	85% of respondents stated this added cost of Public Safety standards-compliant subscriber equipment operating on a standards based, shared system infrastructure used by all government agencies on a daily basis is warranted.
52	All respondents stated their government agency has an inherent responsibility to procure and operate communication assets that are Public Safety standards based and operate on standards based communication infrastructures.
53	None of the respondents felt they could achieve and sustain the same level of preparedness on an independent governmental LMR system.
54	NA based on response to question #53
55	While the majority of respondents could not quantify the economic impact of all agreed there was a cost to maintain compliance with the daily use level.

All but one respondent stated the ALMR cooperative was at the highest level of usage on the SAFECOM continuum. This is primarily because they use the same equipment on a daily basis that they would in a response situation. All stakeholders agreed that ALMR usage met all operational requirements whether for routine communications, interoperability needs during emergency response or tactical incident command. A great majority stated the cost to use standards compliant equipment on a daily basis was warranted. There was also concern that this cost should be supported at the state level. The feedback was unanimous that government agencies have an inherent responsibility to procure and operate communication assets that are

based on Public Safety standards and operate on standards based infrastructure. Anything else diminishes interoperability. When considering the alternative of using independent LMR systems none of the respondents believed they could sustain the same level of preparedness. One stakeholder cited the DHS effort to examine requirements. The DHS analysis showed that independent, non-standard systems fail to provide the mature robust level of interoperable communications in line with the national goals and objectives.[34]

J.7.2 Government Response

Concur.

J.8 Interoperability Maturity

J.8.1 Stakeholder Comments

Table I-10 and Table I-73 through Table I-79 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-9 synthesizes these responses.

Table J-9. Synthesis of Interoperability Maturity Comments, Questions 56-62

Question	Comments
56	All respondents believed the ALMR Cooperative was in compliance with NECP goals.
57	All respondents stated ALMR compliance with NECP met or exceeded their operational requirements for interoperable communications.
58	All respondents stated it was an inherent government responsibility to establish and sustain interoperable communications within the timelines outlined for routine event response.
59	None of the respondents believed independent LMR systems would provide the appropriate technology solution to meet the NECP objectives.
60	All respondents believed independent LMR systems, not designed to meet NECP interoperability goals, would provide less capability than the ALMR approach.
61	92% of respondents believed that the cost of independent LMR systems that did meet NECP goals would cost their agencies more than that of ALMR.
62	Stakeholder responses regarding the economic impact of compliance with NECP ranged from "none" with increased capability to minimal to significant.

Respondents unanimously stated that ALMR met or exceeded their operational requirements with regard to emergency response levels and times and that this was an inherent government responsibility to establish and sustain these levels. None of the respondents had confidence that various agencies operating independent LMR systems could collectively achieve NECP goals for interoperable communications and response times in event situations and would provide less capability than ALMR. The majority of respondents agreed that independent systems, even though designed and implemented to achieve NECP goals, would cost more to provide today's capability. This is substantiated in the Separation Study.[35]

While all respondents believed ALMR was in compliance with NECP goals, some had questions regarding exactly which level ALMR had achieved. There wasn't enough statistical evidence

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[34] Attachment B, Reference B.2.2, Interoperability Continuum Brochure, Department of Homeland Security, undated.

[35] Attachment B, Reference B.1.4, System Design & Implementation Document (SDID) for Alaska Land Mobile Radio (including Appendix A, Feasibility Analysis for DOD/SOA Separation) (FOUO), AKA Separation Study, Motorola, Inc., July 1, 2008.

presented to make a determination. Another was unclear about the application of these goals given the "reality of Alaska's terrain and size". Another stated NECP goals for a "one size fits all approach is unreasonable given the size of Alaska."

J.8.2 Government Response

It appears that there may be some confusion between the NECP Goals and the SAFECOM Continuum. The NECP goals relate to interagency interoperability and are summarized as follows:

1. Goal 1: By 2010, 90 percent of all high-risk Urban Areas designated within the Urban Area Security Initiative (UASI) are able to demonstrate response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.
2. Goal 2: By 2011, 75 percent of non-UASI jurisdictions are able to demonstrate response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.
3. Goal 3: By 2013, 75 percent of all jurisdictions are able to demonstrate response-level emergency communications within three hours of a significant event as outlined in national planning scenarios.

These goals will be met by State and local government using the ALMR System as a tool to demonstrate response-level emergency communications.

The SAFECOM Continuum is a tool used to assess interoperable communications maturity across 5 elements: governance, standard operating procedures, technology, training and exercises and usage.

The SAFECOM Continuum has been used often when assessing the interoperable maturity of ALMR. To date, we are not aware of any specific tests in Alaska to evaluate whether the NECP goals are being met.

J.9 ALMR User Council Charter

J.9.1 Stakeholder Comments

Table I-11 and Table I-80 through Table I-86 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-10 synthesizes these responses.

Table J-10. Synthesis of ALMR User Council Charter Comments, Questions 63-69

Question	Comments
63	All respondents confirmed the need for a User Council and the role and responsibilities of the User Council were beneficial to their agency as a member of ALMR.
64	77% of respondents stated the User Council actions related to their responsibilities did not create an undue economic impact on their agency.
65	Those that responded to this question stated that UC decisions having an economic impact on their organization were warranted, justified and legal.
66	Those that responded stated they incurred costs to participate in the UC and those costs were warranted.
67	All respondents stated the same level of deliberative planning, dialog and interaction between government agencies related to interoperable communication would not occur if they were operating an independent LMR system.
68	92% of respondents stated the establishment of an organization similar to the User Council would be required to be compliant with national goals and objectives related to interoperable communications between government agencies.
69	Responses to how much their cost impact is for UC participation varied from unknown to minimal.

All stakeholders agreed there is a need for a User Council and its roles and responsibilities are beneficial to their agencies' participation in ALMR. One stakeholder cited this forum facilitates coordination and cooperation on issues regarding interoperability solutions, protocols and SOPs for all users. It also defines standards and tracks critical trends associated with them. Another said stakeholders are dependent on the UC to ensure operational and maintenance decisions are consistent and driven by their needs and requirements. Most agreed that UC actions did not create an undue impact on their organization. While all but one agreed user councils for independent systems would be needed, none had confidence the same level of deliberative planning, dialog and interaction between government agencies would occur. One cited the greater likelihood of problems and issues causing frustration and ultimately, less communication and cooperation in this scenario.

Several respondents stated the User Council actions related to their responsibilities created an undue economic impact on their agency. Two cited the reprogramming of radios to meet mandated zones for interoperability had a cost impact in technician time and user overtime. Another cited cost increases in OMO functions that are not necessary or justified for DOD stakeholders and provided examples with their survey response.

J.9.2 Government Response

The roles, responsibilities and decision-making authority of the User Council are defined in the ALMR Cooperative Agreement. The Cooperative Agreement was endorsed by the Executive Council and received approval by each of the stakeholder groups – DOD, non-DOD Federal, State and local. The User Council drove the change in the IC zone in 2004/2005 as part of a participative process with all users. Those who do not want to participate can choose to do so, but their ability to interoperate will be impacted. Furthermore, there have been no OMO cost increases. In accordance with the Cooperative Agreement, the OMO presented a proposed 2010 budget to the User Council. The User Council endorsed the budget and it is currently under review by the Executive Council. Users who take exception to the cost or service level of the OMO should participate in the User Council process to ensure that their voice is heard.

J.10 ALMR Service Level Agreement

J.10.1 Stakeholder Comments

Table I-12 and Table I-87 through Table I-92 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-11 synthesizes these responses.

Table J-11. Synthesis of Service Level Agreement Comments, Question 70-75

Question	Comments
70	All respondents stated the Service Level Agreement (SLA) either meets or exceeds their agency's independent requirements for maintenance response, repair and restoration of service.
71	Responses on economic impact of service/restoration levels for maintenance for repair and restoration of services varied from no impact to unknown to challenging to secure funding.
72	85% of respondents have not faced any legal impediments to being able to obtain appropriations to sustain maintenance, system management and operations management services based on the SLA.
73	62% of respondents stated there would be a need to establish other service level agreements and possibly sustain their communication system at a higher service level or a higher quality of service than is currently required within ALMR if they operated an independent LMR system.
74	All respondents stated government agencies should consider the cost of maintaining service/restoration levels and quality of service levels to meet emergency response an inherent responsibility regardless of what their day to day service level requirements were.
75	Responses regarding economic impact resulting from compliance with the SLA ranged from unknown to no impact to minimal to monumental (for one stakeholder).

Unanimously, stakeholders stated that SLA service/restoration levels and quality of service met or exceeded their agencies independent requirements for maintenance response, repair and restoration of services and sustainment. Maintenance costs for common infrastructure identified in the SLA are currently absorbed by DOD and the State of Alaska and not allocated to all stakeholders. Therefore, many organizations do not have an economic impact on their respective budgets. Most felt in an environment of independent LMR systems that comply with national goals and objectives that there would be a need for government agencies to establish other SLAs to sustain their systems at a higher service level and quality than ALMR currently offers. All stakeholders considered the cost to maintain the system at levels required to meet emergency response either mission essential or mission critical as an inherent government responsibility.

DOD stakeholders identified legal impediments in obtaining appropriations to sustain maintenance levels of the SLA. This challenge occurs when service level requirements exceed organizational requirements. One cited this is further compounded by the lack of formal directives that require them to sustain based on emergency response missions and roles.

J.10.2 Government Response

The ALMR governance structure is defined and established in the ALMR Cooperative Agreement. The Cooperative Agreement was endorsed by the Executive Council for coordination and was approved by the stakeholders. One of the roles of the User Council as defined in the Cooperative Agreement is to define the service levels and develop the service level agreement. This process occurred in 2005/2006 and the document was endorsed for coordination by the Executive Council. The SLA was coordinated and approved by the stakeholders in June 2008. If the SLA needs to be modified, this process can be invoked again beginning at the User Council.

J.11 ALMR Operations & Systems Management Services

J.11.1 Stakeholder Comments

Table I-13 and Table I-93 through Table I-97 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-12 synthesizes these responses.

Table J-12. Synthesis of Operations & Systems Management Services Comments, Questions 76-80

Question	Comments
76	69% of respondents felt that the shared system approach that a fair and equal provider of services is a valid requirement to provide unbiased and balanced shared system management and operations management services.
77	92% of respondents felt the outsourced shared services meet the requirements required to manage the ALMR shared system infrastructure and operation.
78	77% of respondents stated the same SMO and OMO management services would be required if stakeholders were to operate independent systems.
79	Slightly over half the respondents said these services would be outsourced for their organizations as opposed to being performed organically.
80	Responses varied from unknown to none to minimal when asked about the economic impact resulting from outsourcing ALMR operations and system management functions.

The majority of respondents felt that the shared system approach to outsource system and operations management services is required to provide unbiased and balanced services to all stakeholders. One respondent stated this process eliminates conflicts of interest by using a neutral provider focused on the combined needs of the group. It also sets expectations of what specific services are to be provided and the timeframe they will be performed. All but one respondent agreed that the services outlined in government's Statement of Work and the Customer Support Plans met their requirements to manage the shared system infrastructure and operation. When considering the alternative of managing independent LMR systems the majority of respondents felt these same services would be required whether performed organically or by contract.

Four respondents felt that the shared system approach and a fair and equal provider of services either didn't apply to them or was not a valid requirement to provide unbiased and balanced shared system management and operations management services. One of these four stated operations services are not required for DOD. With regard to these services meeting requirements to manage the shared system infrastructure and operation, on respondent stated concern that information and network security is compromised for their operations.

J.11.2 Government Response

The role of the Operations Manager is specified under the governance established in the ALMR Cooperative Agreement. It includes common operations services, and related costs, that are to be shared by all users, regardless of the quantity used by any individual user. These services were included in the OMO statement of work that was used to select the vendor and to develop the firm fixed price contract. This scope of work was vetted through the User Council and representatives from all the major stakeholders (DOD, non-DOD Federal, State and local government) participated in the vendor selection process. If members believe a change in OMO services is required, that process should be initiated at the User Council level and follow the process described above.

J.12 ALMR Information Assurance

J.12.1 Stakeholder Comments

Table I-14 and Table I-98 through Table I-102 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-13 synthesizes these responses.

Table J-13. Synthesis of Information Assurance Comments, Questions 81-85

Question	Comments
81	All but one respondent stated there were no operational or cost impacts of ALMR shared system compliance with DIACAP or they were unknown.
82	All but one state and local respondent considered ALMR sustainment and availability as either "mission critical" or "mission essential".
83	All DOD respondents stated the cost of DIACAP compliance would be either equal to or less if they were to create and maintain communication networks independent of ALMR
84	All respondents stated implementation and sustainment of appropriate levels of IA compliance should be an inherent governmental responsibility for providing communications interoperability
85	Respondents either didn't know or there was no economic impact of DOD implementation and sustainment of Information Assurance compliance on the shared ALMR system.

All but one respondent stated there were no operational or cost impacts related to ALMR shared system compliance with DIACAP or if there were, they were unknown. All but one State and Local Government stakeholder considered the sustainment and availability of ALMR shared system infrastructure to be either mission critical or mission essential as opposed to mission support. With regard to DIACAP compliance, all DOD respondents agreed when considering the alternative of independent LMR systems, the cost would be the same or less than the shared system approach. The specific reasoning was that independent operations equate to a significantly reduced footprint and the number of controls would be equal based upon the mission assurance category selected then compliance costs would be less. All respondents agreed implementation and sustainment of appropriate levels of IA compliance should be an inherent governmental responsibility for providing communications interoperability.

One respondent stated, with regard to operational impacts of ALMR shared compliance with DIACAP, they had concerns the network is susceptible to network infiltration and compromise.

J.12.2 Government Response

The ALMR System received its Authority To Operate (ATO) under the DIACAP process in 2008. To achieve this ATO, the system had to undergo an independent evaluation of 165 security and access controls. A number of actions were taken to tighten security where it was needed before the final ATO was granted. The system is now MAC 2 (Mission Essential) and is arguably, because of that distinction, the most secure statewide radio system in the country.

J.13 ALMR Total Ownership Cost

J.13.1 Stakeholder Comments

Table I-15 and Table I-103 through Table I-105 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-14 synthesizes these responses.

Table J-14. Synthesis of Total Ownership Cost Comments, Questions 86-88

Question	Comments
86	All respondents believed the TOC studies accurately captured legacy system costs and projected future costs.
87	69% of respondents did not have supporting information to substantiate the total cost for their organization to support an independent LMR system
88	All respondents stated when considering the economic impact to their organization felt it was feasible to sustain participation in the ALMR.

Two Total Cost of Ownership (TOC) studies have been conducted on the ALMR System. The first was performed in 2005 and examined the comparative cost of legacy systems. The second, conducted earlier this year, examined the total historical cost, as well as the projected cost of operating the shared infrastructure over the expected lifecycle of the shared system. All respondents believed the TOC studies accurately captured legacy system costs and projected future costs. Most did not have did not have or were not aware of any supporting information their organization might have to substantiate the total cost for their organization to support an independent LMR system. Considering the alternative of operating independent government LMR systems, and based upon their understanding of national policy, goals and objectives, total cost of ownership, operational capabilities, benefits or detractors of the shared system approach and the economic impact to their organizations, all respondents stated it was feasible to sustain participation in ALMR.

One respondent stated that, with their current conventional system, they meet the national standard and that the ALMR system provides better capabilities than an independent one, but may price itself out of being viable.

J.13.2 Government Response

See response in section J.14.2.

J.14 ALMR Cost Share Process

J.14.1 Stakeholder Comments

Table I-16 and Table I-106 through Table I-112 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-15 synthesizes these responses.

Table J-15. Synthesis of Cost Share Process Comments, Questions 89-95

Question	Comments
89	All but one respondent believed the cost share process followed by the EC to derive a cost-share approach and method was fair and equitable
90	77% of respondents, in considering costs to provide other forms of communication (telephone, cell phones, data services, etc), felt the ALMR estimated monthly subscriber costs were reasonable.
91	All but one respondent stated the $18/mo subscriber fee was warranted or cost effective.
92	38% of respondents indicated the annual reevaluation of the cost share approach and method on an annual basis has an economic impact on their agency.
93	85% of respondents indicated they had sufficient time to budget and receive an appropriation to meet agreed upon costs.
94	Only two respondents felt there were inherent liabilities or risks with the cost share approach that made it unacceptable to their agencies.
95	Many respondents identified the projected costs to their agencies without stating whether this was an increase over legacy systems. One had no impact, others said it would be less and some said it would be significant.

A Cost Share Process was conducted in parallel with the current Total Cost of Operations (TCO) study to determine a cost-share strategy for the operations and maintenance (O&M) of the shared system infrastructure. This process guided stakeholders in developing and agreeing to an approach for executing a cost share among stakeholders and a method of allocating individual agency costs. Many courses of action were examined by all stakeholders, and after coordination and compromise, an approach and method were approved by the EC for potential application.

The agreed upon cost share approach is that infrastructure O&M costs are to be paid by the infrastructure owners, and the costs of the services provided by the OMO, SMO and circuit costs supporting the shared network are to be shared by all stakeholders. The preliminary method for sharing the services portion of the O&M costs among all stakeholders was to pro rate them based on the number of radios registered on the system, or in other terms, a flat fee cost per radio, per month. Another alternative that needs to be analyzed is to allocate shared costs based on the system usage of each stakeholder. Once approved, the next step is to execute a cost share agreement that apportions costs to each major stakeholder and then to execute the cost share via Membership Agreements with each user/agency level.

All but one respondent felt the cost share approach and method developed by the EC was equitable and fair. Some organizations felt the per-subscriber rate was reasonable compared to other forms of communication such as telephone, cell phone, and data services. Other agencies did not agree. One provided the caveat that the current and future subscriber rates may inhibit their ability to pay. With the goal of ALMR being interoperability, some agencies can't afford this cost and it will defeat the overall purpose of the system. Many respondents identified the projected costs to their agencies without stating whether this was an increase over legacy systems. One had no impact, others said it would be less and some said it would be significant.

J.14.2 Government Response

We have a concern with the logic here. As a governmental agency, if there is in fact a requirement, then the governmental agency should request the funds from its appropriate funding body (municipal assembly, State legislature or Congress). That body, not the user, will determine if the cost is or is not too expensive and whether the requirement gets funded. Until that process has been exhausted, the cost cannot be deemed too expensive. And, under the Cooperative Agreement, if that funding was requested, pursued and then denied, the agency is allowed to be on ALMR, even if they cannot obtain the funds that year as noted below in Article 9, Section 7 of the ALMR Cooperative Agreement:

> § 7. Non-appropriation clause. In the event of non-appropriation of funds by a party's funding entity (i.e. the Alaska Legislature, United States Congress, city council, borough assembly or board of directors) for participation under this Agreement, the non-appropriation of money for that Party shall not constitute a breach of contract by the Party and no contract damages may be pursued by the other Parties, nor other legal action brought, whether in contract or equity, due solely to the non-appropriation.

J.15 ALMR Separation Study

J.15.1 Stakeholder Comments

Table I-17 and Table I-113 through Table I-114 consolidate the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-16 synthesizes these responses.

Table J-16. Synthesis of Separation Study Comments, Questions 96-97

Question	Comments
96	All respondents that were familiar the White Paper and System Design System Analysis regarding the separation of ALMR into independent systems agreed it was accurate as it pertained to their agency.
97	None of those respondents considers it economically sound to cease their partnership in ALMR to pursue independent LMR systems.

To provide information to stakeholders in the development of a business case to sustain or not sustain the ALMR shared system approach, and to investigate plausible alternatives, a White Paper was developed and a corresponding System Design System Analysis (SDSA) was completed. The White Paper examined the feasibility of separating the ALMR into independent communication networks and to provide technical and cost alternatives to the shared system approach. All respondents that were familiar with these documents regarding the separation of ALMR into independent systems agreed it was accurate as it pertained to their agency. None of those respondents considers it economically sound to cease their partnership in ALMR to pursue independent LMR systems.

J.15.2 Government Response

Concur.

J.16 Any Other Topics or Issues

J.16.1 Stakeholder Comments

Table I-115 consolidates the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-17 synthesizes these responses.

Table J-17. Synthesis of Other Topics or Issues Comments, Questions 98

Question	Comments
98	When asked if there were any additional topics not addressed in the survey, DOT expressed concerns regarding ALMR build out in additional areas requiring coverage.

DOT expressed an additional concern that was not addressed in the survey. It dealt with the buildout plan not completing the coverage for the Tok Cutoff, which has commercial hazardous cargo traffic nearly every day of the year. At least two repeaters are required to provide radio coverage to this vital section of the highway network. Another road with daily hazardous cargo traffic is the Dalton Highway. It is imperative that that the Dalton buildout is included as part of the Alaska Natural Gas Pipeline project if not sooner.

The Department's minimum criteria to determine the need for repeaters in southeast has been that the area supported has at least two of the following: the location has roads on the national highway system, the loaction has a national highway which crosses the Canadian Border, the loaction has a certified airport or the location is serviced by the Alaska State Ferry. Southeast

Alaska is short three repeaters. One at Sitka and one to provide coverage to Wrangell and Petersburg. Yakutat was not in the most recent plan, however, a forth repeater is required for Yakutat. As with Sitka, Wrangell and Petersburg, Yakutat also meets three of the four criteria.

J.16.2 Government Response

The original buildout plan matched the existence of State infrastructure such as shelters and microwave connectivity. Requests for additional sites are to be presented to the EC under the Change Management Procedure for prioritization (http://www.ak-prepared.com/almr/pdf/20080206_ChgMgtProc300-2V1.pdf). Funding must be obtained by the requesting agency.

J.17 Top Concerns/Issues

J.17.1 Stakeholder Comments

Table I-116 consolidates the checkbox and textbox responses to the Stakeholder Survey, respectively. Table J-18 synthesizes these responses.

Table J-18. Synthesis of Top Concerns/Issues Comments, Questions 99

Question	Comments
99	Several respondents identified their top concerns with regard to economic impacts on their organizations.

Several comments on overall concerns/issues are highlighted below.

- A supplemental budget appropriation for 2009. To date there have not been any official cost share figures provided for the system operations and maintenance fee each organization which will be required to pay. It is understood that some small and or volunteer organizations will never be able to pay the fee and that it is a cost of interoperability that the larger organizations have a moral obligation to pick up.
- Predictability is a key feature in any budget item of this size. The system's ability to strictly account for costs and any year-to-year increases will be critical to achieve the required funding.
- ALMR's system managers must be able to strictly account for funds expended. Furthermore, any year-to-year cost increases will be critical to achieving the required funding.
- The cost-share is obviously the biggest issue of economic concern. I believe there needs to be much more discussion at the State legislative level as to the level of commitment that the state is going to provide to participating municipalities on the ALMR system.
- For all public sector agencies small or large the benefit of the ALMR system is the interoperablity that it provides. However if the cost of being on the system leaves some or many off the system we are defeating the purpose.
- Cost Share - the per-radio charge significantly raised our annual cost. We are also concerned about funding unnecessary functions of the OMO. Please see document below

The cost share approach for the reasons stated in the appropriate sections, and the legalities of sustaining service levels sometimes exceed individual Stakeholder requirements. It is certainly logical, and prudent, to sustain a collective service level. However the ability to fund levels that

exceed an individual agencies requirements must be considered and reconciled in the cost-share processes or exception given by Congress for shared system approaches. There must also be an examination of inherent government responsibilites for preparedness, and whether these responsibilities allow the agency to assume higher service levels than those required for day-to-day missions in order to sustain the system at a ready capability for increased mission criticality.

Without sustaining, and eventually expanding, the ALMR Consortium Project and System, SOA emergency interoperable communication requirements as well as FCC Narrowband mandated requirements could not be met.

J.17.2 Government Response

Responses to each of these comments have been addressed previously in this section.