

State of Alaska Telecommunications System (SATS) and Alaska Land Mobile Radio (ALMR) Build Out and Support Projects

FY2007 Request: \$10,120,000
Reference No: 41808

AP/AL: Appropriation **Project Type:** Information Systems
Category: Public Protection
Location: Statewide **Contact:** Eric Swanson
House District: Statewide (HD 1-40) **Contact Phone:** (907)465-5655
Estimated Project Dates: 07/01/2006 - 06/30/2011

Brief Summary and Statement of Need:

This request includes funding for 7 projects that are a continuation of the Alaska Land Mobile Radio (ALMR) build-out and support of the State of Alaska Telecommunications System (SATS) microwave network. ALMR is scheduled to be returned to the Department of Administration from the Department of Military and Veterans Affairs on July 1, 2006.

Funding:	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	Total
Fed Rcpts	\$2,500,000						\$2,500,000
Gen Fund	\$7,620,000	\$2,990,000					\$10,610,000
Total:	\$10,120,000	\$2,990,000	\$0	\$0	\$0	\$0	\$13,110,000

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input checked="" type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

Operating & Maintenance Costs:

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	
Totals:	0	0

Additional Information / Prior Funding History:

Funding in the amount of \$9,149,000 was appropriated in FY2006 (\$2,744,000 DMVA funding included); Funding in the amount of \$6,050,000 was appropriated in FY2005; Funding in the amount of \$400,000 was appropriated in FY2004; Authorization of \$15,553,600 was appropriated in FY2002; Funding in the amount of \$1,200,000 was appropriated in FY2001.

Project Description/Justification:

Project Name	Amount (in thousands)	Fund Source
SATS / ALMR	\$ 10,120,000	\$2,500,000 Fed & \$7,620,000 GF

Problem To Be Solved: This request includes funding for 7 projects that are a continuation of the Alaska Land Mobile Radio (ALMR) build-out and support of the State of Alaska Telecommunications System (SATS) microwave network. ALMR is scheduled to be returned to the Department of Administration from the Department of Military and Veterans Affairs on July 1, 2006.

- 1) ALMR Trunking Equipment** – The key requirements of this project are to complete the build-out of 27 communications sites. The location and number of sites has been determined through an extensive, cooperative engineering analysis funded by the U.S. Department of Defense. The completion of this project is mandatory for the compliance of a Federal Communications Commission (FCC) waiver that was granted for the use of shared radio

frequencies among the various Federal, State, and Local and State agencies on the ALMR system.

- 2) SATS frequency coordination** – The Alaska Land Mobile Radio (ALMR) project was granted a unique waiver by the Federal Communications Commission (FCC). This waiver allows the sharing of dedicated frequencies between the Military and Public Safety communities. This is the first instance in the nation that such a waiver has been granted. A key requirement of the waiver requires that the State of Alaska accommodate all non-ALMR users that may experience frequency interference. This project is to support the frequency coordination efforts with conventional (non-ALMR) users.
- 3) Southeast connectivity for SATS** – The State of Alaska Telecommunications System (SATS) is a point-to-point microwave network providing communications infrastructure throughout the state. With the build-out of ALMR sites, as required by the cooperative agreement with the Department of Defense, there is a requirement for connectivity. Since most of the necessary infrastructure will be in place to support radio communications, ETS has the opportunity to extend the Juneau area microwave network. This microwave extension will bring much-needed bandwidth into communities in Southeast Alaska that have not had the opportunity to benefit from SATS before. This project leverages the ALMR requirement into Southeast Alaska.
- 4) SATS/ALMR Glennallen to Tok extension** – The purpose of this project is to build-out remote communications sites between Glennallen and Tok, a proposed natural gas pipeline spur route. This infrastructure will provide much needed radio communications in a rural area that previously has had extremely limited coverage.
- 5) SATS power generation** – The State of Alaska Telecommunications System (SATS) is a point-to-point microwave network providing communications infrastructure throughout the state. This microwave network is comprised of more than 150 sites, many of them in remote locations with no access to power. Current methods of power generation involve a combination of batteries and solar cells. With the additional power requirements of ALMR, ETS staff must reengineer the existing approach to power generation at remote sites. The proposed project involves the thorough analysis of power requirements and the determination of a solution comprised of a combination of new technology.
- 6) Distance learning SATS extension** – The SATS network has provided decades of reliable service for the State in regions where it has not been commercially viable for the private sector to support. The implementation of this project will result in providing Distance Learning on a stable physical network layer in a region that has not been traditionally supported.
- 7) Tudor Road Warehouse** – Due to increased demands on the State of Alaska's telecommunications facility at Tudor Road in Anchorage, more space is required. The intent of this project is to provide expanded storage for equipment.

Solution:

- 1)** This project involves the procurement and deployment of complex communications equipment at 27 sites located around the state. Due to the FCC waiver, this communications system must be active in a very short time period. The location of the sites varies from north of Fairbanks to Southeast Alaska communities. The majority of these sites are in three primary regions: Kodiak Island, Southeast Alaska and along the Kenai Peninsula.
- 2)** Radio frequency coverage testing and potential replacement of non-ALMR equipment.
- 3)** The additional microwave links will provide connectivity back into the SATS infrastructure, along with significant excess bandwidth to be used by some communities in Southeast Alaska.

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- 4) Multiple state agencies currently have a requirement for improved communications within this region. This region has also been identified for the proposed natural gas pipeline and enhanced communications in the area will be a great benefit in the future.
- 5) Determination of power requirements and the development of a standardized solution for support of continued operations and the development of remote telecommunications sites. The equipment purchased will be a combination of small-scale power generation technologies with remote monitoring capabilities.
- 6) This project will require an extension of existing SATS coverage that must meet or exceed existing performance metrics of current SATS or other network connectivity options in this area.
- 7) A warm, secure environment to manage the inventory to support all forms of radio communications across the state. In addition, ETS is responsible for the installation of radios in state vehicles for DPS and DOT, which could share this new building to accomplish that feat.

Benefits:

- 1) ALMR is a viable project that provides interoperability radio communications across the Federal, State and Local emergency responder customer base. Completion of this project is the final phase of build-out for ALMR.
- 2) The completion of the frequency coordination project is essential for all components of the ALMR system to be fully functional.
- 3) Extension of SATS connectivity into Southeast Alaska will increase the scope of ALMR services that are not currently available today.
- 4) Resolving the communications barrier in the Glennallen-Tok area is vital to emergency responders and also a key component of future use for the natural gas pipeline project.
- 5) Power generation on the SATS sites is a vital component to ensure continued operations is functional. SATS sites are often remote and unreachable during winter months, having a functional power plant is essential to the operations of SATS.
- 6) Distance learning is reliant upon telecommunications for its deployment and functionality. This project will address those issues in an area of the Kenai Peninsula that does not enjoy this option today.
- 7) Securing the ALMR and SATS equipment in a heated facility will assist ETS in continuing their support of both systems and to the SOA agencies who rely on ETS for that support.

What We
Propose to Buy:

- 1) Based upon previous figures, ETS estimates building these SATS sites at a rate of approximately \$256,000 each x 27 sites. Total estimated at \$ 7,155,000
- 2) ETS estimates to spend approximately \$225,000 for the frequency coordination project.
- 3) ETS estimates to spend approximately \$350,000 for the SATS Southeast Alaska project.
- 4) ETS estimates to spend approximately \$800,000 for the Glennallen-Tok SATS project.
- 5) ETS estimates to spend approximately \$240,000 for the SATS power generation project.
- 6) ETS estimates to spend approximately \$700,000 for the Distance Learning SATS project.
- 7) ETS estimates to spend approximately \$650,000 for the Tudor Road warehouse building project.

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Prior Funding
History:

- 1) \$6,050,000 was appropriated in FY 2005 and \$9,149,000 was appropriated in FY 2006 (including \$2,744,000 in DMVA's budget).
- 2) No prior year funding history exists.
- 3) No prior year funding history exists.
- 4) No prior year funding history exists.
- 5) No prior year funding history exists.
- 6) No prior year funding history exists.
- 7) No prior year funding history exists.

Timeline:

- 1) The timeline to build-out these 27 sites is 12 months. A lot of the build-out will occur in the spring and summer months that allow easier access due to weather conditions.
- 2) The timeline for completion of the SATS frequency coordination project is 12 months.
- 3) ETS estimates complete build-out for Southeast Alaska to take approximately 24 months. Essential build-out will occur in FY 2007 and completion of the project sometime in FY 2008.
- 4) ETS estimates complete build-out for the Glennallen-Tok area to take approximately 24 months. Essential build-out will occur in FY 2007 and completion of the project sometime in FY 2008.
- 5) ETS estimates completion of the SATS power generation project to take approximately 24 months. Analysis of the sites with a priority schedule will occur in FY 2007 and completion expected by the end of FY 2008.
- 6) ETS estimates the completion of the Distance Learning SATS project to be 12 months.
- 7) ETS estimates the completion of the Tudor Road Warehouse project to be 12 months.

Explanation of
How Project
Contributes to
Your Divisional
Mission:

These projects are associated with the support of the SATS infrastructure and also to the ALMR project as it relates to SATS. They are a continuation and migration of the State of Alaska's microwave network infrastructure into a more robust and secure environment. Our partnership with the Department of Defense relies on our ability to maintain and operate the SATS infrastructure according to the standards of ALMR. The investment by the State of Alaska into SATS will ensure its viability as a resource for all telecommunications on a state owned network infrastructure.

Explanation of
How Project
Contributes to
End Result:

Financial support to build-out the SATS infrastructure for current and future telecommunications needs of state agencies is vital to its continued existence. These projects are necessary components of our commitment to maintaining and operating a state of the art microwave network that supports our customer base, now to include the Department of Defense and local municipalities as it relates to emergency communications.