

AP/AL: Appropriation **Project Type:** Health and Safety
Category: Health/Human Services
Location: Statewide **Contact:** Arnold Liebelt
House District: Statewide (HD 1-40) **Contact Phone:** (907)465-1870
Estimated Project Dates: 05/01/2008 - 06/30/2013

Brief Summary and Statement of Need:

The purpose of this project is to protect the health and safety of Alaskans by maintaining and updating legacy emergency communication systems owned by the state and currently in use by emergency medical responders in rural areas where the Alaska Land Mobile Radio (ALMR) system is not available or response agencies do not have reliable funding sources for the purchase and maintenance of ALMR radios.

Funding:	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	Total
Gen Fund	\$265,000	\$190,000	\$190,000	\$190,000	\$190,000		\$1,025,000
Total:	\$265,000	\$190,000	\$190,000	\$190,000	\$190,000	\$0	\$1,025,000

<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
<u>One-Time Startup:</u>	<u>0</u>	<u>0</u>
Totals:	0	0

Additional Information / Prior Funding History:

CH61/SLA01/P19/L17 \$341.6 GF
 CH135/SLA00/P14/L19 241,600 AHFC Corporate Dividends
 CH139/SLA98/P51/L11 \$311,600 GF
 CH50/SLA97/P4/L14 \$200,000 GF

Project Description/Justification:

The purpose of this project is to protect the health and safety of Alaskans by maintaining and updating legacy emergency communication systems owned by the state and currently in use by emergency medical responders in rural areas where the Alaska Land Mobile Radio (ALMR) system is not available or response agencies do not have reliable funding sources for the purchase and maintenance of ALMR radios. This request will fund:

- ? assessment of the repair and replacement needs of the existing VHF/HB base station/repeater network which supports two-way radio communication using conventional equipment,
- ? updating of the Statewide Emergency Medical Services Communication Plan (last revised in 1997), and
- ? completion of the highest priority repair and replacement projects.

BACKGROUND

The State of Alaska's emergency communications equipment can literally be a life or death issue. For nearly 30 years, systems of VHF radio base stations and repeaters have served the needs of local emergency responders across the state, particularly in rural areas. Some of these systems are owned by the State; others are owned by local hospitals, Native corporations, and regional Emergency Medical Services (EMS) agencies. In rural communities and along the

state's highways that run between major population centers, most of the emergency response personnel are volunteers and the nearest clinic or hospital is a considerable distance away. Due to great distances and extreme and unpredictable weather conditions, EMS personnel are often required to stabilize injured or ill individuals and maintain their care for periods of time ranging from a couple of hours to a day or more, until the patient can be delivered to a medical facility. The VHF radio systems allow emergency responders to maintain communication with physicians and medical facilities during response situations.

The footprint of the ALMR system is well defined, with infrastructure identified on the road system between Homer and Fairbanks and as far east as Tok and Valdez. Outside of this road system, only the Nome area has ALMR coverage. Within the ALMR service area the emphasis of the project has necessarily been placed on fully transitioning police and fire agencies to ALMR and using their experience to optimize the functioning of the system. Emergency medical responders in the incorporated jurisdictions have begun to transition to ALMR as funding becomes available through federal grants or local government appropriations to purchase the equipment and pay the user charges.

The process of integrating emergency medical responders into ALMR is slower in the more rural and unincorporated areas, where Emergency Medical Services groups are largely comprised of volunteers and do not have ready access to local or federal funding streams. Within the ALMR footprint, the legacy systems must be maintained until all users are transitioned to ALMR to ensure that EMS responders have the ability to communicate during ambulance calls with other emergency responders and with hospitals and physicians. Emergency responders outside the ALMR areas noted above must continue to rely on other communications systems indefinitely.

When failures occur, the minimum amount of repairs necessary to keep a site operational is completed if funds that can be used for this purpose are available in the Division of Public Health operations budget. Because the repeater equipment has not been updated as technology advanced, replacement parts are no longer available for some of the sites. Funds to maintain the VHF/HB base station/repeater network were last appropriated in FY01. Capital funds appropriated in FY02 for the EMS Emergency Communications project were distributed directly to local communities to serve as matching funds for U.S. Department of Agriculture grants to purchase radio handsets and related equipment.

TECHNICAL CONSIDERATIONS

The State's VHF radio base stations and repeaters are not compatible with ALMR. However, through interoperability bridges and gateways, conventional radio systems and other disparate communication devices - including various kinds of radios, cell phones, satellite phones, and personal digital assistants (PDA) - can communicate with the ALMR system as long as the infrastructure of the conventional system is maintained to provide reliable service in its coverage area.

Further, transmissions via ALMR and the legacy systems both rely on line-of-sight between the transmitting and receiving antenna, meaning that the ability to visually sight a transmitting antenna roughly corresponds with the ability to receive a signal from it. In mountainous areas where service exists for both ALMR and the conventional radio systems, redundancy may serve to reduce the line-of-sight gaps caused by the terrain. Two systems will also provide redundancy in the event of disruption to either of the systems caused by failure of equipment or technology, or natural events such as earthquakes and severe weather.

The Federal Communications Commission has promulgated rules to replace existing wideband radio systems with narrowband frequency ranges. The deadline for this transition is currently 2013. The prudent course of action is to maintain the State-owned VHF equipment until at least 2013 when the narrow band plan is implemented. The 30 year-old repeater system in its current state cannot be upgraded to narrowband frequencies; outdated equipment at the repeater sites needs to be replaced to accommodate the transition to narrowbands. This request will allow strategic replacement and maintenance to ensure that EMS services can continue to rely on the system and communicate with hospitals, fire, search and rescue, and police services.

Technical standards are in place to allow narrowband conventional radio systems to communicate with ALMR. As ALMR equipment becomes available in rural areas, the legacy systems can continue to provide a redundant method of emergency communication while the operation of ALMR is fully evaluated and refined.

COORDINATION OF STATE RESOURCES

The Alaska Council on Emergency Medical Services, established in Chapter 18 of the Alaska Statutes, advises the Commissioner of Health and Social Services and the Governor on issues affecting EMS in Alaska. The Council has considered the communication needs of EMS responders around the state and reviewed the Division of Public Health's plan to meet those needs. The plan to continue supporting the legacy systems was developed in coordination with the ALMR project, Department of Administration/Enterprise Technology Services (DOA/ETS), and with the Department of Military & Veterans Affairs. The Division of Public Health will continue to rely on these entities for advice and expertise to determine when emergency responders are fully integrated into ALMR. This project will require the Division of Public Health to work closely with DOA/ETS to assess, maintain, and replace repeaters that are identified as critical for the EMS communications system.

DETAILS OF THE PROJECT

State-owned VHF base station/repeater network sites include the following locations:

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|---|--|
| Paxson | Willow Mt. (south of Glennallen) |
| Tolsona (west of Glennallen) | Divide (west of Valdez) |
| Ernestine (south of Glennallen) | Ester |
| Chena | Mt. Fairplay (Fairbanks area) |
| Beaver Creek | Tok |
| Delta/Ft. Greely | Healy |
| Cantwell | Hurricane (between Talkeetna & Cantwell) |
| Chulitna | Sawmill (east of Palmer) |
| Hope | Silvertip (Kenai Peninsula) |
| Wolcott (between Moose Pass & Seward) | Cooper |
| Niniichik | Seldovia |
| Mt. Sunny Haye (Prince of Wales Island) | |

Budget:

- \$90,000 Assessment of the repair and replacement needs of the existing VHF/HB base station/repeater network which supports two-way radio; test signal strength to determine if all sites need to be retained; perform deferred maintenance to include repair of electronic equipment and the structures in/on which it is located; technician labor costs; and transportation costs to reach all sites. This work is performed by Department of Administration/Enterprise Technology Services or its contractors.
- \$75,000 Contractual services to update the Statewide Emergency Medical Services Communication Plan (last revised in 1997).
- \$100,000 Completion of the highest priority replacement projects identified in the assessment. This amount will fund the replacement of five or six repeater sites, depending on the extent to which helicopter transportation is required to carry out the work. Replacement unit is a Motorola Quantar conventional repeater capable of both wideband and narrowband configuration. Additional costs for each site may include new antennas, antenna cable, interface equipment to tie radios to dispatch systems, backup power systems, and technician labor costs for installation.

Anticipated funding needs in future years:

\$190,000 in FY10, FY11, FY12, and FY13 to complete equipment replacement at repeater sites necessary to meet FCC requirements.

Department's Mission: *To promote and protect the health and well being of Alaskans.* This project contributes to the Department's mission by providing EMS communications throughout Alaska that are essential to maintaining the health of Alaskans.

This project contributes to the goal of having "healthy people in healthy communities."