

**Alaska Marine Highway System - Vessel and Terminal
Overhaul and Rehabilitation**

**FY2006 Request: \$6,500,000
Reference No: 30624**

AP/AL: Appropriation

Project Type: Renewal and Replacement

Category: Transportation

Location: Statewide

Contact: Tom Briggs

House District: Statewide (HD 1-40)

Contact Phone: (907)465-3900

Estimated Project Dates: 07/01/2005 - 12/31/2006

Brief Summary and Statement of Need:

Annual maintenance and overhaul on vessels and at terminals, particularly component or system failures which will impact service in the short term. This project contributes to the Department's Mission by reducing injuries, fatalities and property damage and by improving the mobility of people and goods.

Funding:	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Total
Bond Funds	\$6,500,000						\$6,500,000
Gen Fund		\$5,500,000	\$5,500,000	\$5,500,000			\$16,500,000
Total:	\$6,500,000	\$5,500,000	\$5,500,000	\$5,500,000	\$0	\$0	\$23,000,000

<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:

FY2005 - \$4,063,000; FY2004 - \$4,930,000; FY2003 - \$5,000,000; FY2002 - \$4,239,365; FY2001 - \$4,200,000; FY2000 - \$4,390,600; FY - 1999 - \$4,000,000. This has been an annual Capital Program.

Project Description/Justification:

The FY 06 *Alaska Marine Highway System Overhaul and Rehabilitation* request will fund:

The required annual overhaul of each of the ten vessels in the fleet:	\$6,200,000
Ongoing maintenance of the System's eighteen state-owned shore facilities:	300,000
Total request:	\$6,500,000

The majority of the funds being requested are spent in Alaska shipyards and with Alaska suppliers and vendors directly creating jobs for Alaskans.

Vessel Overhaul - \$6,200,000

Overhaul work consists of inspection, repair, and maintenance that cannot be performed while the vessels are operating. For each ship, an overhaul period of approximately six weeks is set aside for it to be delivered to a shipyard for drydocking and completion of this scheduled work. Examples of such work include: propeller, hub, shaft and bowthruuster inspections, sea valves and sea chests, liferaft and rescue boat inspections, propulsion machinery and generator

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maintenance, sewage system inspection and repair, vehicle elevator maintenance, void and ballast tank blasting and coating, structural steel and system piping renewal and deck machinery maintenance. In performing overhaul work, AMHS must meet the exacting inspection requirements and standards of safety and seaworthiness of two agencies, the American Bureau of Shipping (ABS) and the United States Coast Guard (USCG). None of this work is discretionary. At the end of the overhaul period, the vessel must pass a demanding USCG inspection in order to obtain a Certificate of Inspection. The certificate is mandatory for the year's operation.

Overhaul work is costly. Putting a vessel into drydock, which must be done annually on almost all vessels to allow mandatory inspections and work to be performed, can cost over \$20,000 base cost plus \$1,000 for each day it remains in drydock. Dismantling a main propulsion engine for ABS inspections requires the work of several skilled engineers over a period of several weeks. These costs are incurred to enable inspections to be made and routine maintenance to be performed.

In addition to work required by ABS and the USCG, work is performed upon recommendation by equipment manufacturers and work that AMHS port engineers determine to be sound equipment maintenance practice. Some discretionary work is prudent. For example, painting the hull is not required, but paint protects the hull from deterioration and in the long term, the value of asset protection greatly outweighs the cost of the painting.

In FY 06, the department will address a number of needed upgrades and equipment purchases, many of which are deferred carryover projects. They are:

1. Mandatory upgrades to meet federal maritime security (MarSec) and international security regulations pertaining to doors, locks, remote monitoring systems, and navigation and communication systems - \$220,000.
2. Noise surveys and soundproofing for engine operating stations and workshop areas aboard M/V Malaspina and M/V Matanuska. These noise levels are a potential source of crew disability claims - \$90,000.
3. Mandatory wastewater monitoring and treatment upgrades to meet State of Alaska law - \$260,000.
4. Mandatory upgrades to meet USCG requirements for installing and maintaining lifesaving equipment (marine evacuation chutes, self-contained breathing apparatuses, and emergency escape breathing devices) - \$80,000.
5. Mandatory additional engine room fire suppression equipment consisting of a localized water mist fire protection system required by the USCG - \$400,000.
6. Equipment for the Auke Bay FVF Vessel Support Facility for the M/V Fairweather - \$30,000.
7. Electrical generation system repairs and switchboard modifications aboard Columbia - \$80,000.
8. Construction of a permanent shipping and storage building in Homer to support the M/V Tustumena - \$100,000.

In FY 06 this capital appropriation must also fund overhaul on additional vessels. In October 2003, the M/V E.L. Bartlett was removed from service and sold. During the spring of 2004 two new vessels, the M/V Fairweather and M/V Lituya, were added to the fleet. The M/V Chenega is scheduled to be delivered and begin revenue operations in the spring of 2005.

Another continuing source of increased costs is maintenance of new systems and equipment (primarily safety related) required by the International Maritime Organization's Safety of Life at Sea (SOLAS) regulations and similar U.S. Code of Federal Regulations Subchapter "W" provisions. While federal funds pay to purchase and install the new systems and equipment, state funds must be used for maintenance. As vessels age, the amount and cost of required maintenance increases.

The fleet's steel and aluminum vessels operate in a hostile corrosive salt-water atmosphere. The ships must be protected, or they will suffer rapid deterioration and eventual major structural metal and expensive equipment replacement costs. Ignoring these maintenance and repair requirements will result in failure to maintain American Bureau of Shipping (ABS) classification and failure to pass USCG Certification of Inspection (COI) examinations. Taking vessels out of classification will result in higher annual insurance rates. Without a COI the vessels cannot provide passenger service and the department cannot accomplish the AMHS mission of providing safe, reliable public transportation.

Deferred maintenance items have begun to accumulate. Year by year, the department has been unable to afford to perform all prudent preservation. For example, ballast tanks need to be recoated as rust develops and the steel wastes. Recoating ballast tanks has occurred on a reduced schedule that does not adequately protect them from further wasting. The recent close regulatory inspections of the M/V LECONTE, after its grounding in May 2004, have highlighted the costs of deferred maintenance. The department has been required by ABS and the USCG to invest over \$60,000 to replace

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several sections of the vessel's vehicle because of steel wastage; the direct result of many years of deferred routine maintenance of the coatings on these surfaces.

In the past the department has often established pools of major main engine components that are economical to rebuild. These are used as ready spares to keep the vessels in service when a casualty occurs. Due to funds being spent on higher priority items, many of these components were placed in storage without being rebuilt.

The quality of the public's traveling experience has diminished as the physical appearance of the public spaces deteriorates. On many vessels, passenger areas that are subject to heavy traffic have torn or heavily patched furniture and wall coverings.

Shore Facilities Maintenance Funding requested: \$300,000

Capital budget General Funds (GF) also provide for the maintenance of shore facilities. Sixteen state-owned shore facilities, scattered from Homer to Ketchikan, consist of the terminal buildings, floating and motor operated transfer bridges, hydraulic ramps, mooring structures, and staging areas. Like the vessels, the shore facilities are subjected to hostile weather and the corrosive effects of salt air and water. Maintenance of these complex facilities is necessary to ensure passenger and vehicle safety, protection of the state's assets, and compliance with the Americans with Disabilities Act.

The demand for shore facilities maintenance dollars has increased in the past few years. The department has added a new terminal building in Homer and a new stern berth in Auke Bay for the M/V Fairweather, and has rebuilt the Petersburg terminal building. Each of these improvements adds more complex heating, ventilation, alarm and emergency power, and electric systems and equipment to be maintained.

Over the next year, the state will see three new terminals as well as major modifications to existing terminals in order to implement transportation security upgrades in the wake of September 11, 2001. These are the new Valdez dock and terminal building that are close to completion, replacement of the old transfer facility in Cordova with a new transfer bridge and two new berths (one side load and one stern load) and the new dock and terminal building in Whittier, all scheduled to be constructed during the winter of FY 05. Each of these new facilities has sophisticated security features incorporated into their designs. The Valdez terminal will also have prototype vehicle scales in support of the introduction of the fast vehicle ferry M/V Chenega in Prince William Sound in 2005. All of these advanced systems will require additional maintenance.