

**State of Alaska
FY2009 Governor's Operating Budget**

**Department of Transportation/Public Facilities
Marine Engineering
Component Budget Summary**

Component: Marine Engineering

Contribution to Department's Mission

Ensure that all Alaska Marine Highway System (AMHS) vessels and terminal facilities are safe, reliable, comfortable, and accessible to all Alaskans and visitors to the state.

Core Services

- Conduct annual fleet and terminal condition surveys to develop functional operational assessments. Provide technical information for long-range maintenance and facility development.
- Prepare the plans, specifications and estimates and manage the construction contracts for new vessel construction and for the repair, refurbishment, and modernization of existing AMHS vessels. Assure that the vessels continue to comply with state, federal, and international regulations, as well as all United States Coast Guard (USCG) and marine classification society requirements.
- Support fleet operations through the port engineer functions located in Ketchikan engineering waterfront facilities and while attending AMHS vessels at commercial shipyards during both state overhauls and federal aid projects.
- Perform preventive maintenance on 16 widely-dispersed state-owned ferry terminals ranging in location from Homer to Ketchikan. Perform semi-annual inspections and maintenance for regulatory compliance and accomplish upgrades and repairs of the terminal facilities. Terminal facilities include the transfer bridges, mooring structures, staging areas and terminal buildings. The majority of terminals are located on the National Highway System and are vital for the transportation of goods and people throughout the state.

FY2009 Resources Allocated to Achieve Results

FY2009 Component Budget: \$3,082,200

Personnel:

Full time	21
Part time	0
Total	21

Key Component Challenges

- The contract administration of the existing fleet refurbishment program funded through current ongoing capital improvement projects continues to stretch existing vessel construction management team members. Work continues on the fleet to modernize them, three of which carry the very demanding Safety of Life at Sea (SOLAS) certification required to service Prince Rupert, BC. On July 1, 2002 requirements for fire protection, fire detection and fire extinction on board ships went into effect as part of the International Convention for the Safety of Life at Sea 1974 incorporating technological advances in fire detection and extinction as well as lessons learned from fire incidents over the years. The chapter applies to ships built on or after July 1, 2002. Ships constructed before that date should comply with the chapter in force prior to July 1, 2002. AMHS vessels affected by this new requirement are the Matanuska, Taku and Kennicott.
- Availability of adequate Statewide Transportation Improvement Program (STIP) funds to procure replacement vessels for our aging fleet, as well as modernize and maintain our vessels, is critical to the long range mission of AMHS. The orderly replacement and upgrade of our vessels, with more emphasis on true day boat service, should result in reduced operating expense and improved vessel reliability and customer service. In accordance with our long-range maintenance and modernization plan, the planning for federally funded capital projects for M/V's Tustumena, Matanuska and Fairweather are underway for completion in FY09.
- Each new terminal that is built, upgraded, or expanded adds a new fire alarm system and/or sprinkler system

that require annual re-certification to meet Division of Fire Prevention regulations. These new regulations, added to historical Occupational Safety and Health Administration (OSHA), Department of Environmental Conservation (DEC), Americans with Disabilities Act (ADA), and now security requirement oversight, require significant administrative effort and put pressure on the existing budget.

- Recruitment of Vessel Construction Managers and Port Engineers, primarily due to retirement and transfer from state service, will continue to be challenging. Hiring qualified candidates that have specialized skills and experience normally requires nationwide recruitment and at least six months lead time.
- In order to sail to Prince Rupert, B.C. AMHS vessels must continue to be certified under the International Maritime Organization's demanding Safety of Life at Sea (SOLAS) regulations. Over the past 15 years, new SOLAS safety and security requirements have been added almost annually, usually with very short implementation timeframes. Many of these requirements are eventually incorporated in the USCG-enforced U.S. Code of Federal Regulations (CFR's) for the remainder of the AMHS domestic fleet.
- The American with Disabilities Act (ADA) has established new regulations that will be enforced by the Department of Justice that apply to all vessel renovation and new construction projects. These new regulations apply to many of the shore-side ADA requirements that exist in building codes today. Due to the age and configurations of our vessels, these new requirements will add challenges and cost to the design and construction of our projects.
- Established Alaska Department of Environmental Conservation regulations pertaining to black (sewage) and grey water discharge require many of our larger vessels to be retrofitted with completely new Marine Sanitation Devices (MSD). While we cannot predict these unfunded mandates, we will continue to absorb them in FY09 and beyond and do our best to accomplish the required upgrades using federal funds. With the addition of these new regulations, our work load has increased over the past few years.

Significant Changes in Results to be Delivered in FY2009

No significant changes are anticipated.

Major Component Accomplishments in 2007

- Successfully managed two design and construct contracts totaling \$12 million dollars. These contracts consisted of the M/V *Malaspina* refurbishment and the M/V *Taku* SOLAS projects. Both vessels were delivered within budget and on time.
- M/V *Malaspina* Federal Aid Project, work included: the overhaul of main engines, refurbishment of accommodation spaces and replacement of vehicle deck sprinkler system. The scope of work also included the overhaul of deck machinery, piping system replacement/ upgrades, blasting and painting of tanks and voids as recommended in the 2000-2001 Vessel Condition Survey, the ABS current and future survey status, the Coast Guard inspection status, and compliance with existing and pending regulations. Dry-docking for regulatory inspections.
- M/V *Taku* Federal Aid Project, work included: the renewal of the controllable pitch propellers system; propulsion control system modifications; installation of amidships light duty mooring capstans; forward observation lounge secondary escape installation; boat deck lounge and writing area arrangement modifications; boat deck stairways and passageway flooring renewal; passenger cabin to officer's stateroom conversion; cabin deck linen and emergency gear locker installations; cabin deck recliner and TV lounge renovation; shaft alley escape route door renewal; forepeak salt water ballast tank coating system renewal; lube oil storage tank reach rods installation; SOLAS fire safety modifications; stability assessment; sea trials; and annual overhaul work and dry docking.
- Successfully executed the \$150,000 **Fleet Condition Survey** project which included updating the fleet survey documents and database to indicate status of recently completed work and define regulatory work required to maintain operational status. This year, AMHS executed an integrated, internal survey/ reporting system that will assist in the collection and execution of individual tasks. This system, utilizes both shipboard engineers and shore side engineering team resources to better communicate the immediate needs of the fleet.
- Finalized Phase 2 (design phase) of the M/V *Aurora* Refurbishment project which included development of the Plans Specification and Estimating of the following work items: Replacing deteriorated Main Deck and hull plating between, Mechanical and Electrical system upgrades, Exterior door upgrades, installing secondary

escape doors, renewing extensive portions of the ship's plumbing drainage system, renewing the coating systems of various tanks, voids, trunks, and bilge areas, installing a electronic speed pilot system to improve fuel economy, installing new search lights and radar, installing new means of escape systems, passenger space upgrades, performing hazardous material removal and mitigation.

- Completed Phase 2 (design phase) of the M/V **Columbia** Refurbishment project which included the design of the refurbishment of 2nd deck crew's quarters; HVAC system modifications; conversion of anchor windlass motor control system to variable frequency drive; overhaul and refurbishment of three mooring capstans; overhaul and refurbishment of anchor windlass; sandblasting and painting of three ballast tanks; freight elevator refurbishment; main engine overhaul and modifications; SAT COM wireless internet installation; ADA restroom fabrication; safety equipment replacement; ship service generator overhaul; stability assessment; and annual overhaul work and dry docking.
- Finalized Phase 2 (design phase) of the M/V **Lituya** post construction project which included development of the Plans Specification and Estimating of the following work items: Conduct a detailed post delivery hull survey to identify shell plate fatigue and repairs as necessary; survey operating condition of existing ship systems and modify as required; upgrade existing security systems; relocate engine mounted control panels; install drip pans for fuel filters; reroute waste oil piping to waste oil tank; improve shaft drip pan pumping system; perform interior space safety upgrades and ADA modifications; relocate port and starboard navigation lights to improve docking visibility; upgrade main engine sump pumps; install additional fire pump; enclose bridge wing and modify vessel control system; relocate exterior vehicle deck lights; evaluate and modify HVAC system; install water mist fire protection system in engine room; upgrade propulsion and main engine control systems; modify switchboard to allow paralleling of generators and shore power; reduce size of forward mast.
- Regulatory requirements that now mandate that AMHS facilities have sophisticated security features prompted us to re-key all AMHS Ferry terminals, install new security gate at the head of the gangway at the Cordova Ferry Terminal, add security lighting at Wrangell Ferry terminal, and added security fencing at the Haines Ferry Terminal between AMHS Property and the city dock.
- AMHS continues to work towards the reduction of frequency and severity of terminal casualties and emergency repairs. This is being accomplished through the use of improved, condition-based, planned, and programmed preventive maintenance.

Statutory and Regulatory Authority

AS 19
AS 44

Contact Information

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**Marine Engineering
Component Financial Summary**

All dollars shown in thousands

	FY2007 Actuals	FY2008 Management Plan	FY2009 Governor
Non-Formula Program:			
Component Expenditures:			
71000 Personal Services	2,238.9	2,623.6	2,709.4
72000 Travel	63.4	65.1	65.1
73000 Services	196.8	152.5	152.5
74000 Commodities	112.1	155.2	155.2
75000 Capital Outlay	0.0	0.0	0.0
77000 Grants, Benefits	0.0	0.0	0.0
78000 Miscellaneous	0.0	0.0	0.0
Expenditure Totals	2,611.2	2,996.4	3,082.2
Funding Sources:			
1004 General Fund Receipts	0.0	0.0	0.0
1061 Capital Improvement Project Receipts	1,116.1	1,531.6	1,607.5
1076 Marine Highway System Fund	1,495.1	1,464.8	1,474.7
Funding Totals	2,611.2	2,996.4	3,082.2

Estimated Revenue Collections

Description	Master Revenue Account	FY2007 Actuals	FY2008 Management Plan	FY2009 Governor
Unrestricted Revenues				
None.		0.0	0.0	0.0
Unrestricted Total		0.0	0.0	0.0
Restricted Revenues				
Capital Improvement Project Receipts	51200	1,116.1	1,531.6	1,607.5
Restricted Total		1,116.1	1,531.6	1,607.5
Total Estimated Revenues		1,116.1	1,531.6	1,607.5

**Summary of Component Budget Changes
From FY2008 Management Plan to FY2009 Governor**

All dollars shown in thousands

	<u>General Funds</u>	<u>Federal Funds</u>	<u>Other Funds</u>	<u>Total Funds</u>
FY2008 Management Plan	0.0	0.0	2,996.4	2,996.4
Adjustments which will continue current level of service:				
-FY 09 Health Insurance Increases for Exempt Employees	0.0	0.0	0.2	0.2
-Correct Unrealizable Fund Sources for Salary Adjustments: Exempt	0.2	0.0	-0.2	0.0
-FY 09 Bargaining Unit Contract Terms: General Government Unit	0.0	0.0	75.9	75.9
-FY 09 Bargaining Unit Contract Terms: Labor Trades and Crafts Unit	0.0	0.0	9.7	9.7
-Correct Unrealizable Fund Sources for Salary Adjustments: LTC	9.7	0.0	-9.7	0.0
-Consolidate General Funds for Marine Vessel Operations	0.0	0.0	9.9	9.9
-Consolidate General Funds for Marine Vessel Operations	-9.9	0.0	0.0	-9.9
FY2009 Governor	0.0	0.0	3,082.2	3,082.2

**Marine Engineering
Personal Services Information**

Authorized Positions		Personal Services Costs		
	FY2008 Management Plan	FY2009 Governor		
Full-time	19	21	Annual Salaries	1,078,276
Part-time	2	0	COLA	81,338
Nonpermanent	0	0	Premium Pay	348,034
			Annual Benefits	706,611
			<i>Less 0.00% Vacancy Factor</i>	(0)
			Lump Sum Premium Pay	0
Totals	21	21	Total Personal Services	2,214,259

Position Classification Summary

Job Class Title	Anchorage	Fairbanks	Juneau	Others	Total
Facilities Manager I	0	0	0	1	1
Maint Gen Journey	0	0	1	2	3
Maint Spec Bfc Jrny II/Lead	0	0	1	0	1
Marine Trans Svcs Mgr	0	0	0	1	1
Naval Architect	0	0	1	0	1
Stock & Parts Svcs Journey II	0	0	0	2	2
Vessel Const Manager I	0	0	0	3	3
Vessel Const Manager II	0	0	0	3	3
Vessel Const Manager III	0	0	0	2	2
Totals	0	0	3	14	17