

BUDGET ACTIVITY: OFFICE OF MARINE AND AVIATION OPERATIONS

For FY 2013, NOAA requests an increase of \$15,026,000 and 0 FTE over the FY 2013 base level for a total of \$241,070,000 and 1,035 FTE for the Office of Marine and Aviation Operations. This includes \$10,487,000 and 0 FTE in adjustments-to-base.

BASE JUSTIFICATION FOR FY 2013:

NOAA's Office of Marine and Aviation Operations (OMAO) operates an array of specialized aircraft and ships in support of NOAA's environmental and scientific missions. OMAO administers the NOAA Diving Program and NOAA Small Boat Program. OMAO is composed of the NOAA Commissioned Corps (NOAA Corps) officers and civilians who play a critical role in the collection of oceanographic, atmospheric, hydrographic, and fisheries data.

The Ship and Aircraft Fleets operate throughout the world supporting the full range of NOAA missions, such as fisheries research, nautical charting, hurricane reconnaissance and research, snow surveys, and specialized atmospheric and ocean research. Ships range from large oceanographic research vessels capable of exploring the world's deepest ocean to smaller ships responsible for charting the shallow bays and inlets of the United States. Aircraft range from the four engine P-3 capable of penetrating a hurricane to the small twin engine Twin Otters suited to marine mammal surveys where slower airspeeds and higher endurance are essential.

In addition to the research and monitoring activities critical to NOAA's mission, OMAO ships and aircraft provide immediate response capabilities for unpredictable events. Following major natural and environmental disasters, NOAA ships and aircraft can conduct emergency navigation hazard surveys that help ports reopen quickly and obtain aerial images of disaster-torn areas that enables residents and emergency workers to verify the condition of houses, bridges and roads.

OMAO is charged with the safe and efficient operation and maintenance of the Ship and Aircraft Fleets. OMAO develops annual fleet allocation plans, conducts life cycle maintenance, and provides centralized fleet management including standard procedures, safety inspections, and medical services in partnership with the Public Health Service. OMAO coordinates the training and certification of officers, crew members, and scientists in at-sea and airborne safety and procedures.

The NOAA Corps commands and supports the fleets as well as provides support to NOAA Line Offices. OMAO manages the recruitment, training, personnel assignments, and payroll for the NOAA Corps.

Beginning with the FY 2013 request, NOAA proposes to consolidate OMAO's Operations, Research, and Facilities appropriation into two sub-activities by incorporating funding previously provided in the Fleet Planning and Maintenance sub-activity into the Marine Operations and Maintenance sub-activity (\$193,447,000 and 1,030 FTE):

- Marine Operations and Maintenance (\$165,198,000 and 926 FTE)
- Aviation Operations (\$28,249,000 and 104 FTE)

In addition, OMAO also has one sub-activity in the Procurement, Acquisition and Construction appropriation (\$2,392,000 and 5 FTE):

- Fleet Replacement (\$2,392,000 and 5 FTE) includes Fleet Capital Improvements & Tech Infusion and New Vessel Construction

The OMAO budget includes the following other accounts:

- NOAA Corp Commissioned Officers Retirement Pay (\$28,269,000 and 0 FTE)
- Medicare Eligible Retiree Healthcare Fund (\$1,936,000 and 0 FTE)

Research and Development Investments:

The NOAA FY 2013 Budget estimates for its activities, including research and development programs, are the result of an integrated requirements-based strategic planning process. This process provides the structure to link NOAA's strategic vision with programmatic detail and budget development, with the goal of maximizing resources while optimizing capabilities. OMAO requests \$74,884,000 for investments in R&D and infrastructure to support R&D in the FY 2013 Budget.

NOAA's R&D planning is tied to the goals, enterprises, and associated objectives outlined in NOAA's Next Generation Strategic Plan. Specifically, NOAA's Science and Technology Enterprise and underlying objectives of holistic understanding of the Earth system through research; accurate and reliable data from observing systems; and an integrated environmental modeling system, provide the basis for a set of internal implementation plans covering a 7-year period which guide NOAA's research and development activities. The NOAA Research Council - an internal body composed of senior scientific personnel from every line office in the agency - informs the annual updates to these implementation plans, and is developing the next 5-Year Research and Development Plan for NOAA (FY2013- 2018), which will be publicly available when completed. This new plan will reflect NOAA's strategic objectives, provide a single guiding document for our scientists, the public, and our partners, and inform future internal planning efforts.

Significant Adjustments-to-Base (ATBs):

NOAA requests an increase of \$10,487,000 and 0 FTE's to fund adjustments to current programs for OMAO activities. The increase will fund the estimated 2013 Federal Civilian pay raise of 0.5 percent and Military pay raise of 1.7 percent. The increase will also provide inflationary increases for non-labor activities, including ship and aircraft fuel cost increases, service contracts, utilities, field office lease payments, and rent charges from the General Service Administration (GSA).

NOAA also requests the following transfer for a net change of \$0 and 0 FTE:

| From Office | PPA | To Office | PPA | Amount/FTE |
|-------------|--------------------------------|-----------|-----------------------------------|------------------------|
| OMAO | Fleet Planning and Maintenance | OMAO | Marine Operations and Maintenance | \$26,949,000/ 3 FTE |

NOAA requests a technical adjustment of \$26,949,000 and 3 FTE from the Fleet Planning and Maintenance PPA to the Marine Services PPA which it renames the Marine Operations and Maintenance PPA to reflect a consolidation of the two PPAs. The merger of the two line items will enable OMAO to better facilitate the management of the fleet. The separation of Fleet Planning and Marine Services budgets has not been conducive to integrating the planning and management of fleet operations and associated scheduled maintenance activities. OMAO has found that executing interdependent activities (e.g. ship operations schedule and shipyard repair schedule) to separate predetermined operations and maintenance budgets from year to year is inefficient and presents an unnecessary burden to the effective allocation of fleet resources. Combining them will enable more efficient execution of fleet and maintenance budgets, while not impacting OMAO's ability to report on maintenance costs.

Administrative Cost Savings:

The Administration is continuing its pursuit of an aggressive government-wide effort to curb non-essential administrative spending. As a result, the Department of Commerce continues to seek ways to improve the efficiency of programs without reducing their effectiveness. The Department's total savings target for FY 2013 is \$176 million, which includes \$142.8 million in savings initiated in FY 2012 and an additional \$33.2 million planned for FY 2013. Building on OMAO's administrative savings planned for FY 2012 (\$3.5 million), an additional \$0.1 million in savings is targeted for FY 2013 for total savings in FY 2013 of \$3.6 million.

Headquarters Administrative Costs:

In FY 2013, OMAO Line Office headquarters will use \$6,870,000 in funds to support general management activities, financial and budgeting, and IT related expenses, as well as supporting facilities and other general operating costs. These funds also include support for service contracts, utilities, and rent charges from the General Services Administration. Specifically, OMAO will use headquarters administrative funds to support the following:

| Headquarters Program Support Type | Description | FY 2013 Amount | FY 2013 FTE associated with OMAO HQ |
|---|---|-----------------------|--|
| General Management & Direction/Executive Management | Includes Assistant Administrator's office, public affairs, information services | \$1,973,000 | 8.4 |
| Budget & Finance | Includes Budget, Finance and Accounting | \$1,870,000 | 12.0 |
| Facilities/Other Administrative (CAO Functions) | Includes Facilities and Security costs, as well as other CAO related activities | \$917,000 | 0 |
| Human Resources | All HR services, including EEO | \$135,000 | 1.0 |
| Acquisitions and Grants | | \$0 | 0 |
| Information Technology | Includes IT-related expenses and other CIO related activities | \$1,975,000 | 5.0 |
| Total | | \$6,870,000 | 26.4 |

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APPROPRIATION ACCOUNT: OPERATIONS, RESEARCH AND FACILITIES
SUBACTIVITY: MARINE OPERATIONS AND MAINTENANCE

Marine Operations and Maintenance (MOM) is the consolidation of the Marine Services Data Acquisition and the Fleet Planning and Maintenance PPAs into a single PPA. The creation of a single PPA will provide improved flexibility in the year-to-year planning of ship operations and shipyard repair schedules by allowing OMAO to invest resources based on specific needs and condition of the fleet. In addition, a single PPA will contribute to the simplification of OMAO accounting transactions and the more effective tracking of fleet resources.

MOM funds centralized management for NOAA's 16 active ships including the newest Fisheries Survey Vessels, *Pisces*, *Bell M. Shimada*, *Reuben Lasker* (FSV6), and a new shallow draft hydrographic survey ship the *Ferdinand Hassler*. NOAA vessels range in length from 124 to 274 feet and are capable of conducting operations that support NOAA's programs in nautical charting, bathymetric mapping, fisheries research, ecosystem assessments, marine environmental baseline assessments, coastal-ocean circulation, and oceanographic and atmospheric research. In FY 2013, funding will provide approximately 2,586 Days at Sea to support NOAA's highest priority programs.

Regular and adequate maintenance allows NOAA ships to meet the rigorous demands of scientific, forecasting, and regulatory missions of NOAA. MOM funding provides for general maintenance and repair of NOAA ships including critical scientific and technical equipment necessary to meet stakeholder requirements.

The NOAA Fleet is subject to various requirements and regulations related to safety and emissions put forth by three organizations. The American Bureau of Shipping (ABS) certifies ships as seaworthy. The MOM program uses ABS rules to design its maintenance program and conduct Structural Systems Mechanical Engineering Inspection (SSME), formerly called Material Condition Assessments on the NOAA Fleet. The Environmental Protection Agency (EPA) promulgates regulations governing airborne emissions under the Clean Air Act that affects engine and exhaust components. The United States Coast Guard (USCG) promulgates regulations on all discharges from ships that regulations are designed to protect marine environments from harmful discharges. In addition, as the primary provider of fisheries and mammal surveys, the program has a unique operating role in marine sanctuaries that requires additional protections to maintain the pristine nature of these environments.

The objectives of MOM are:

- Ensure the operational readiness and maximum capability of the NOAA fleet in support of present and future NOAA data collection;
- Provide properly trained personnel, fuel, warehousing, laboratory and deck equipment, and other scientific equipment necessary to meet user requirements and schedules;
- Develop, with the guidance of the Fleet Council, annual ship allocation schedules based on program requirements and available funds;
- Provide centralized management and coordination of scheduling, port services, operating procedures, and engineering support for NOAA's ships;
- Conduct Work Definition Conferences (WDC) to prioritize tasks and determine availability for docksides (DS), drydocks (DD) and Major Repair Periods (MRPs);
- Train and qualify NOAA personnel to ensure safe and effective diving operations;
- Train and certify NOAA Commissioned Corps officers, crew, and scientists in at-sea safety requirements for their positions according to the Standards of Training, Certification and Watch keeping for Seafarers and the International Maritime Organization conventions;

- Provide NOAA Corp Officers trained as engineers and scientists in NOAA program disciplines to provide mobile operational and other support;
- Provide oversight and support to enhance safety of NOAA's small-boat operations.
- Support the maintenance activities for the NOAA fleet with appropriate maintenance and repair tracking systems and databases.

FY 2011 Program Accomplishments:

- OMAO took possession of its new Marine Operations Center- Pacific Newport, OR facility on May 1, 2011.
- The NOAA Working Diver Standards and Safety Manual was approved and implemented on July 14, 2011.
- NOAA Ship *Ferdinand R. Hassler* received its US Coast Guard Certificate of Inspection (COI) and American Bureau of Shipping (ABS) Classification on May 26, 2011. This marked the completion of the first of three phases to bring the ship into regulatory body compliance and meeting all the original design and construction performance requirements.
- Conducted Arctic survey work, in Kotzebue Sound, using the NOAA ship *Fairweather*.
- Ocean explorers on NOAA Ship *Okeanos Explorer* observed two species of marine life (chemosynthetic shrimp and tubeworms) scientists believe have never before been seen together at a hydrothermal vent.
- NOAA Ship *Okeanos Explorer* conducted the longest plankton sampling effort by any vessel, more than 5,100 nautical miles, during its return to the West Coast from Guam.
- NOAA Ship *McArthur II* studied the impact of the Deepwater Horizon oil spill on the Gulf of Mexico as part of the Natural Resource Damage Assessment process.

NOAA Fleet detail as of FY 2012 is provided below:

| Vessel | Length-Class | Mission | Home Port | Status |
|--|--------------|--|-----------------------------|--------------------|
| <i>Ronald H. Brown</i> | 274 ft. - I | 1,4 | Charleston, SC | Active |
| <i>Rainier</i> | 231 ft.- II | 3 | Newport, OR | Active |
| <i>Fairweather</i> | 231 ft.- II | 3 | Ketchikan, AK | Active |
| <i>Ka'imimoana</i> | 224 ft.- III | 1 | Honolulu, HI | Active |
| <i>Miller Freeman</i> | 215 ft.-II | 1,2 | Newport, OR | Inactive |
| <i>McArthur II</i> | 224 ft.- III | 1,2,4 | Newport, OR | Inactive |
| <i>Oregon II</i> | 175 ft.- III | 2 | Pascagoula, MS | Active |
| <i>Thomas Jefferson</i> | 208 ft.- II | 3 | Norfolk, VA | Active |
| <i>Gordon Gunter</i> | 224 ft.- III | 2 | Pascagoula, MS | Active |
| <i>Oscar Elton Sette</i> | 224 ft.- III | 2 | Honolulu, HI | Active |
| <i>Delaware II</i> | 155 ft.- IV | 2 | Woods Hole, MA ¹ | Active |
| <i>Nancy Foster</i> | 187 ft.- III | 1,4 | Charleston, SC ¹ | Active |
| <i>Hi'ialakai</i> | 224 ft.- III | 1,4 | Honolulu, HI | Active |
| <i>Oscar Dyson</i> | 208 ft. - II | 2 | Kodiak, AK | Active |
| <i>Henry B. Bigelow</i> | 208 ft. - II | 2 | Newport, RI** | Active |
| <i>Pisces</i> | 208 ft. - II | 2 | Pascagoula, MS | Active |
| <i>Bell M. Shimada</i> | 208 ft. - II | 2 | Newport, OR | Active |
| <i>Okeanos Explorer</i> | 224 ft.- III | 1 | Davisville, RI | Active |
| <i>Ferdinand R. Hassler</i> ² | 124 ft - II | 3 | New Castle, NH | Active |
| <i>Reuben Lasker</i> ³ | 208.6 ft -II | 2 | West Coast | Under Construction |
| Mission: 1= Oceanographic Research 2 = Fisheries Research | | 3 = Hydrographic Surveys 4 = Environmental Assessment | | |

¹ These ships are currently proposed to be inactive in the FY 2013 operating plan.

² Limited operations in FY 2012

³ NOAA ship *Reuben Lasker* is currently under construction and will be under limited operations in FY 2013.

In FY 2013, NOAA will move NOAA ships *Nancy Foster* and *Ronald H. Brown* to MOC-A in Norfolk, VA.

The subactivity also includes:

The Marine Operations Center (MOC): The Marine Operations Center has Atlantic and Pacific regional offices located in Norfolk, Virginia, and Newport, Oregon, respectively. MOC provides regional fleet management, maintenance, warehousing, supplies, repair facilities, data-processing facilities, operational support, and administrative support for NOAA's vessels. The vessels are assisted by a small support staff at the home port of most ships. NOAA vessels are staffed by NOAA Corps officers, civilian Wage Mariners, and Electronics Technicians. NOAA vessels are strategically deployed based on the size, range, laboratory space, equipment, and accommodations necessary to meet project requirements. The Class I and II vessels have the endurance, and equipment to conduct surveys and investigations in the deep ocean outward from the continental shelf or in remote areas such as Alaska and Antarctica. The Class III vessels perform fisheries surveys, climate research and ocean exploration. The Class IV vessel, *Delaware II*, is designed for continental shelf and near-shore operations. Some of the projects include water quality studies, maritime heritage surveys, and coral reef assessments. Programs supported by ships are organizationally housed within NOAA's National Marine Fisheries Services (NMFS), Office of Oceanic and Atmospheric Research (OAR), National Ocean Service (NOS), and National Weather Service (NWS).

The NOAA Commissioned Personnel Center (CPC): CPC, headquartered in Silver Spring, Maryland, is responsible for providing a specialized workforce to NOAA that has the skills to plan, prepare, and execute the acquisition of environmental and scientific data on land, at and under the sea, and in the air. CPC is a unique personnel system within NOAA. CPC is responsible for active duty NOAA Corps officers and associated human resource activities that include recruitment, appointment, training, assignments, promotion, separation, retirement, and officer entitlements.

OMAO Headquarters (HQ): OMAO Headquarters division consists of Executive Affairs Division (EAD), Resource Management Division (RMD), Safety and Environmental Compliance Division (SECD), Information Management Division (IMD) and Health Services. Located in Silver Spring, Maryland, HQ is responsible for the formulation of policies and procedures, development of plans and budgets, and management of the NOAA Corps. Management of the NOAA Corps includes providing direction for labor relations activities, medical affairs, training, safety, and other personnel matters unique to commissioned officers and vessel employees assigned to the fleet.

OMAO Headquarters administers the following NOAA-wide activities including the:

NOAA Dive Program: The NOAA Dive Center (NDC) provides diver training, safety standards, certification, technical advice, a standardized equipment program, and publishes the NOAA Diving Manual. NOAA has more than 400 divers who perform over 15,000 dives annually in support of NOAA's programs. Marine Center divers played a support role for various projects. Fleet diving activities included ship husbandry tasks such as clearing screws and sea strainers, conducting hull surveys for damage, and installing transducers. Ship divers also install tide gauges and other data gathering equipment and investigate multi-beam contacts. These activities provide cost savings to the NOAA fleet, enhance customer service and facilitate self-sufficiency on the seas.

NOAA Small Boat Program (SBP): The SBP is designed to reduce risk, promote standardization, and enhance the safety of NOAA's small boats. NOAA maintains over 400 small boats, which are operated and funded within the Line Office programs. The SBP monitors and conducts small-boat inspections, facilitates small boat activities by hosting workshops and sharing related information, and provides technical and engineering assistance to NOAA Line Offices concerning small boats.

NOAA Teacher at Sea Program (TAS): Up to 30 teachers per year participate in the TAS program. Teachers at the kindergarten through college level spend time on NOAA vessels working with NOAA scientists. The teachers provide a valuable connection between NOAA and their students. The popularity of the program led two alumni to develop the spin-off, Teacher in the Air. NOAA's Teacher in the Air (TIA) program now flies between two to five teachers on NOAA aircraft each year. As of FY 2011, over 630 teachers, from all 50 states, have participated in the programs.

Schedule & Milestones:

- Ships annual schedules and milestones are governed by the Fleet Allocation Plan (<http://www.omaο.noaa.gov/shipallocation.html>) as agreed to and signed by the NOAA Fleet Council. The Fleet Allocation Plan details the objective and duration of individual NOAA projects.
- Drydock and Dockside repair has a set maintenance period for each vessel based on ABS scheduling by ship class. The following ships are scheduled for drydocks in FY 2013: *Rainier, Oscar Dyson, Gordon Gunter, and Oscar Elton Sette.*

Deliverables:

FY 2013:

- At the requested funding level, the program will provide 2,586 base Days at Sea (DAS) in FY 2013. Detailed deliverables are determined on a project by project basis as documented in sailing instructions agreed to by OMAO and the respective line office.
- Perform Program Funded DAS (PFD) as scheduled. In addition to the base funded DAS, OMAO conducts missions funded through reimbursable agreements and Service Level Agreements (SLA) with NOAA programs. Program funded days (PFD) are scheduled based on availability of ships and program funds. OMAO does not anticipate future reimbursable DAS.

Performance Goals and Measurement Data:

| Performance Measure: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Annual Number of Fleet Casualty Reports (CASREPS) | 177 | 160 | 140 | 110 | 100 | 80 | 80 |
| Description: Casualty Reports (CASREPS) is the annual number of machinery, electrical or personal system breakdowns. | | | | | | | |

| Performance Measure: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Days at Sea | 2,609 | 2,166 | 2,586 | 2,586 | 2,586 | 2,586 | 2,586 |
| Discussion: Days at Sea (includes mission days only). A mission day is defined as when ship is at sea incident to the scientific mission. For FY 2013 and forward, NOAA assumes 16 active ships and a fuel rate of \$3.35 per gallon. | | | | | | | |

| Performance Measure: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Reimbursable DWH DAS | 286 | 30 | N/A | N/A | N/A | N/A | N/A |
| Discussion: In response to the Deep Water Horizon oil spill in the Gulf of Mexico, NOAA's ships performed reimbursable NRDA days at sea. NOAA does not anticipate reimbursable DAS in the out years. | | | | | | | |

| Performance Measure: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Program funded DAS | 0 | 529 | TBD | TBD | TBD | TBD | TBD |
| Discussion: OMAO conducts missions funded through reimbursable agreements and Service Level Agreements (SLA) with NOAA programs. Program funded days (PFD) are scheduled based on availability of ships and program funds, therefore out year targets are to be determined. | | | | | | | |

| Performance Measure: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Fleet Utilization | 65% | 59% | 71% | 71% | 71% | 71% | 71% |
| Discussion: Fleet utilization rate is calculated by taking the actual days at sea from base Marine Operations and Maintenance funding and dividing it by the maximum operating tempo of 235 days at sea per active ship. In FY 2013 and forward, NOAA assumes 16 active ships. Not included in the calculation are the ships proposed for inactive status in FY 2013. This reflects NOAA's practice of reinvesting fixed cost savings from non-active ships into the active fleet, thereby increasing overall days at sea. | | | | | | | |

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PROGRAM CHANGES FOR FY 2013:

Marine Operations and Maintenance: Environmental Compliance Increase (Base Funding: \$350,000 and 0 FTE; Program Change: \$1,017,000 and 0 FTE): NOAA requests an increase of \$1,017,000 and 0 FTE for a total of \$1,367,000 and 0 FTE for activities associated with bringing NOAA fleet and small boats into compliance with Environmental Protection Agency (EPA) and United States Coast Guard (USCG) regulations.

Proposed Actions:

A number of maritime environmental regulations have gone into effect, including stricter emissions requirements from the Environmental Protection Agency (EPA) and stricter discharge requirements from the United States Coast Guard (USCG). These new regulations will require changes to the existing vessel fleet to ensure compliance is maintained and monetary fines are avoided. Proactively ensuring compliance with these new environmental regulations will allow NOAA to maintain its position as a leader in environmental stewardship and in executing the Administration's energy priorities.

Specifically, NOAA will:

- Purchase and install tier upgrade kits for main propulsion engines and ship service generators for vessels undergoing MRP to become tier compliant, as required by EPA 40CFR part 1042.
- Replace top-side hydraulic lines during special survey dry dockings to reduce risk of failure, as required by EPA Vessel General Permit.
- Upgrade or replacement of Oily Water Separators (OWS) to separate free and emulsified oils (black) / waste (grey water) for vessels which OWS is no longer supported by the manufacturer or the technology has advanced as required.
- Reduced greenhouse gas emissions by increasing vessel efficiency as required by the Energy Independence and Security Act and EO 13514.

Statement of Need and Economic Benefits:

These priorities were selected according to their status as legal requirements with market-ready solutions, as identified by the DRAFT Cost/Benefit Analysis Study for Greening of the NOAA Fleet (researched by Art Anderson Associates, February, 2010).

Base Resource Assessment:

The Base Resource Assessment is provided in the Marine Operations and Maintenance base narrative.

Schedule & Milestones:

FY 2013 – 2017:

- Award contracts and complete work to bring vessels into environmental compliance

Deliverables:

FY 2013 – 2017:

- Install two engine upgrade kits on Oscar Dyson class ship
- Install four engine upgrade kits on NOAA ship *Henry Bigelow*
- Convert four top-side hydraulic piping and hoses to biodegradable hydraulics
- Upgrade five Oily-Water Separators
- Perform Green House Gas/increased efficiency Audit

Performance Goals and Measurement Data:

| Performance Measure: Ships Compliant with Environmental Regulations (%) | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| With increase | N/A | N/A | 11% | 15% | 19% | 23% | 26% |
| Without increase | 5% | 7% | 9% | 13% | 15% | 18% | 21% |
| Discussion: Measures the number of NOAA ships compiling with new environmental regulations for the Environmental Protection Agency and United States Coast Guard now in effect. | | | | | | | |

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Office of Marine and Aviation Operations

Subactivity: Marine Operations and Maintenance

| Object Class | 2013 Increase |
|--|--------------------------|
| 11 Personnel compensation | |
| 11.1 Full-time permanent | \$0 |
| 11.3 Other than full-time permanent | 0 |
| 11.5 Other personnel compensation | 0 |
| 11.8 Special personnel services payments | 0 |
| 11.9 Total personnel compensation | 0 |
| 12 Civilian personnel benefits | 0 |
| 13 Benefits for former personnel | 0 |
| 21 Travel and transportation of persons | 0 |
| 22 Transportation of things | 0 |
| 23.1 Rental payments to GSA | 0 |
| 23.2 Rental Payments to others | 0 |
| 23.3 Communications, utilities and miscellaneous charges | 0 |
| 24 Printing and reproduction | 0 |
| 25.1 Advisory and assistance services | 110 |
| 25.2 Other services | 907 |
| 25.3 Purchases of goods & services from Gov't accounts | 0 |
| 25.4 Operation and maintenance of facilities | 0 |
| 25.5 Research and development contracts | 0 |
| 25.8 Subsistence and support of persons | 0 |
| 26 Supplies and materials | 0 |
| 31 Equipment | 0 |
| 32 Lands and structures | 0 |
| 33 Investments and loans | 0 |
| 41 Grants, subsidies and contributions | 0 |
| 42 Insurance claims and indemnities | 0 |
| 43 Interest and dividends | 0 |
| 44 Refunds | 0 |
| 99 Total obligations | 1,017 |

Marine Operations and Maintenance: Charleston Homeport Closure– (Base Funding \$165,198,000 and 926 FTE: Program Change: -\$200,000 and 0 FTE): NOAA requests a decrease of \$200,000 and 0 FTE for a total of \$164,998,000 and 926 FTE associated with the relocation of NOAA ships *Ronald H. Brown* and *Nancy Foster* from the Charleston, SC homeport to the Marine Operations Center-Atlantic and homeport in Norfolk, VA.

Proposed Action:

NOAA proposes to relocate two NOAA vessels from the Charleston, SC homeport to the Marine Operations Center-Atlantic (MOC-A) in Norfolk, VA. Charleston, SC is currently home to NOAA Ships *Ronald H. Brown* and *Nancy Foster* and their crews, a port captain, and a port engineer, all of which will move to Norfolk. The port consolidation will result in annual operating cost savings of \$200,000 which includes the elimination of the cost of dredging the Charleston, SC every three years, at \$150,000 per dredging. The consolidation enables NOAA to increase the efficiency of the fleet in a number of ways. Using the MOC-A as the new location will improve training, logistics and fleet maintenance by concentrating the ships in a central location and allowing easier access for NOAA's fleet engineers.

Statement of Need and Economic Benefits:

The cost savings and efficiency gained through the consolidation will enable OMAO to more effectively manage the Atlantic fleet. Internal NOAA partners will not be affected by the relocation because the programs that the vessels support are not co-located in Charleston, SC. Finally, the US Coast Guard will benefit by having increased pier space available for their National Security Cutters which are expected to arrive in 2015.

Base Resources Assessment:

The Base Resource Assessment is provided in the Marine Operations and Maintenance base narrative.

Schedule & Milestones:

FY 2013:

Achieve vessel and personnel relocation and close the homeport and port office.

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Office of Marine and Aviation Operations
Subactivity: Marine Operations and Maintenance

| Object Class | 2013 Decrease |
|--|--------------------------|
| 11 Personnel compensation | |
| 11.1 Full-time permanent | 0 |
| 11.3 Other than full-time permanent | 0 |
| 11.5 Other personnel compensation | 0 |
| 11.8 Special personnel services payments | 0 |
| 11.9 Total personnel compensation | 0 |
| 12 Civilian personnel benefits | 0 |
| 13 Benefits for former personnel | 0 |
| 21 Travel and transportation of persons | 0 |
| 22 Transportation of things | 0 |
| 23.1 Rental payments to GSA | 0 |
| 23.2 Rental Payments to others | 0 |
| 23.3 Communications, utilities and miscellaneous charges | 0 |
| 24 Printing and reproduction | 0 |
| 25.1 Advisory and assistance services | 0 |
| 25.2 Other services | (200) |
| 25.3 Purchases of goods & services from Gov't accounts | 0 |
| 25.4 Operation and maintenance of facilities | 0 |
| 25.5 Research and development contracts | 0 |
| 25.6 Medical care | 0 |
| 25.7 Operation and maintenance of equipment | 0 |
| 25.8 Subsistence and support of persons | 0 |
| 26 Supplies and materials | 0 |
| 31 Equipment | 0 |
| 32 Lands and structures | 0 |
| 33 Investments and loans | 0 |
| 41 Grants, subsidies and contributions | 0 |
| 42 Insurance claims and indemnities | 0 |
| 43 Interest and dividends | 0 |
| 44 Refunds | 0 |
| 99 Total obligations | (200) |

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APPROPRIATION ACCOUNT: OPERATIONS, RESEARCH AND FACILITIES
SUBACTIVITY: AVIATION OPERATIONS

OMAO's Aircraft Operations Center (AOC), located at MacDill Air Force Base in Tampa, Florida, operates NOAA's Aircraft Fleet in support of NOAA's mission to promote global environmental assessment, prediction and stewardship of the Earth's environment. The aircraft operate throughout the United States and around the world; over open oceans, mountains, coastal wetlands, and the Arctic. AOC provides capable, mission-ready aircraft and professional crews to meet NOAA's mission supporting scientific endeavors studying global climate change and air quality, assessing marine mammal populations, surveying coastal erosion, investigating oil spills, conducting coastal mapping, surveying snowpack levels for flood prediction, and improving hurricane prediction models. AOC flight crews operate in some of the world's most demanding flight regimes including flying into the eye of a hurricane.

The variety and versatility of the aircraft provide scientists with the airborne platforms necessary to collect essential environmental and geographic data. The Fleet is equipped with comprehensive data-collection systems in support of missions related to the Earth's environment, coastal and marine resources, and severe weather. OMAO also ensures that outsourced aviation operations are conducted safely by providing technical support, services and equipment to NOAA programs. In FY 2013, AOC will provide approximately 1,380 base funded flight hours in support of NOAA's mission. In this submission, NOAA has changed flight hour reporting to show only base funded hours, and will no longer include program funded hours. This is consistent with reporting of marine days at sea metrics.

The objective of the Aviation Operations subactivity is to:

- Provide NOAA with centralized aircraft systems management and coordination of airborne data collection flight time;
- Modify, maintain, and operate the aircraft with a combined work force of specially trained civilians and officers of the NOAA Corps to meet airborne data-collection requirements;
- Maintain the airworthiness and operating standards of the aircraft for optimum safety along with standardization of scientific systems and aircraft;
- Operate the aircraft safely and in compliance with Federal Aviation Administration regulations regarding use of airspace, control of air traffic, and aircraft registration;
- Develop and operate prototype and operational scientific-research instrumentation aboard NOAA aircraft; conduct applied research to ensure validity of data collected; recommend and implement specialized modifications, equipment or personnel for particular missions or projects;
- Develop, with the guidance of NOAA's Fleet Council, annual flight-time allocation schedules based on airborne data-collection requirements;
- Provide centralized expertise in aviation safety to arrange for safe commercial aviation services for NOAA programs using outsourced aircraft.

FY 2011 Program Accomplishments

- Supported emergency response efforts following the devastating tornados in Missouri and Alabama. The NOAA King Air flew damage assessment missions and collected quality aerial photographs with its high performance digital imaging system. Made immediately available to emergency management officials, these photographs were instrumental in assessing the damage and locating missing residents of the area.
- Supported the National Hurricane Center as Hurricane Irene tracked toward and along the U.S. East Coast by providing round-the-clock hurricane research, surveillance and forecast

improvement. AOC deployed two WP-3s and a G-IV to probe the storm as it developed over the Atlantic and moved north along the eastern seaboard.

- Delivered the Service Life Assessment of WP-3 aircraft, detailing the end of service life and additional structural inspections to keep the aircraft airworthy.
- Performed a series of three flights over several days, using a WP-3, at the request of the National Hurricane Center (NHC) to obtain sea surface temperature (SST) and flight-level, surface, and profile wind observations in Hurricane Dora in the eastern Pacific during the decay process over cold water. This data set, which NHC has been trying for years to collect, will go a long way in answering questions about the dynamics of the decay process as a hurricane weakens rapidly.
- Successfully flew for the first time the tail Doppler radar (TDR) on the G-IV. This radar will provide invaluable data for assimilation into the hurricane models to improve tropical cyclone intensity forecasts.
- Flew almost 200 hours using a WP-3 in support of the Alaska Gravity for the Re-definition of the American Vertical Datum (GRAV-D) project. The aircraft, which was supporting NOS in its efforts to redefine the American vertical gravity datum, was able to fly long duration missions well out over the Beaufort Sea covering a large part of the Alaskan grid.
- Utilized a NOAA-owned Unmanned Quadro-copter on Cape Shirreff, Antarctica for the first time. A team from Southwest Fisheries and AOC, performed penguin population studies from the air. The battery operated copter, which is virtually noiseless, remotely sampled wildlife in undisturbed conditions.
- Participated in a joint Winter Storm Pacific Atmospheric Rivers (WSPAR) mission with the G-IV and the NASA/NOAA Global Hawk in early March utilizing GPS dropsondes from both platforms to define the latitudinal extent of moist air flowing toward the U.S. west coast from the tropical Pacific.

The following table provides information on the aircraft fleet for the current program (missions and support fluctuate based on program priorities):

| Aircraft | Type | Mission | Location |
|--|---------------------|---|-----------------|
| HEAVY: (3) Lockheed WP-3 | 4-engine turbo prop | Air quality (OAR) Hurricane research (OAR) Hurricane reconnaissance (NWS) Ocean winds (NESS, NWS) Hurricane intensity forecasting (NWS) Climate research (OAR) | MacDill AFB, FL |
| MID: (1) Gulfstream G-IV | 2-engine turbo jet | Hurricane surveillance (NWS) Winter storm reconnaissance (NWS) Hurricane intensity forecasting (NWS) Atmospheric research (OAR) | MacDill AFB, FL |
| LIGHT: (4) Dehavilland Twin Otter DHC-6 | 2-engine turbo prop | Aerial surveys (NMFS) Atmospheric research (OAR) | MacDill AFB, FL |
| (1) King Air | 2-engine turbo prop | Photogrammetry (NOS) Multi-spectral scanner (NOS) Airborne bathymetric LIDAR (NOS, NWS) Post-storm damage assessment (NOS) | MacDill AFB, FL |

| | | | |
|---|---------------------------|--|------------------------------------|
| (2) Rockwell Shrike Commander/AC500S | 2-engine reciprocating | Snow survey (NWS) Fisheries observations (NMFS) Marine mammal observations (NMFS) | Minneapolis, MN MacDill AFB, FL |
| (1) Jet Prop Commander AC/695 | 2-engine turbo prop | Snow surveys (NWS) Fisheries observations (NMFS) Marine mammal observations (NMFS) | Minneapolis, MN |

Schedule & Milestones:

- Aircraft Services annual schedule and milestones are governed by the Aircraft Allocation Plan (<http://www.oma.noaa.gov/airallocation.html>) as agreed to and signed by the NOAA Fleet Council. The Aircraft Allocation Plan details the individual NOAA projects to be conducted on each aircraft, and the timeframe for project.

Deliverables:

- At the requested funding level, the program will provide 1,380 base flight hours in FY 2013. Detailed deliverables are determined on a project by project basis as documented in flight instructions agreed to by OMAO and the contracting line office.
- Perform Program Funded Hours as scheduled. In addition to the base funded flight hours, OMAO conducts missions funded through reimbursable agreements and Service Level Agreements (SLA) with NOAA programs. Program funded hours are scheduled based on availability of planes and program funds. OMAO does not anticipate future reimbursable flight hours.

Performance Goals and Measurement Data:

| Performance Measure: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------|
| Base Flight Hours | 1,876 | 1,330 | 1,380 | 1,380 | 1,380 | 1,380 | 1,380 |
| Description: Number of base funded flight hours. For FY 2013 and forward, NOAA assumes a fuel rate of \$3.67 per gallon. | | | | | | | |

| Performance Measure: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------|
| Program funded flight hours | 1,638 | 1,990 | TBD | TBD | TBD | TBD | TBD |
| Discussion: OMAO conducts missions funded Service Level Agreements (SLA) with NOAA programs. Program funded hours are scheduled based on availability of planes and program funds, therefore out year targets are to be determined. | | | | | | | |

| Performance Measure: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------|
| Reimbursable flight hours | 427 | 578 | N/A | N/A | N/A | N/A | N/A |
| Discussion: OMAO conducts reimbursable funded missions based on the availability of planes. NOAA does not anticipate reimbursable flight hours in the outyears. | | | | | | | |

PROGRAM CHANGES FOR FY 2013:

Aircraft Services: Flight Hour Increase (Base Funding: \$28,249,000 and 104 FTE; Program Change: +\$1,992,000 and + 0 FTE): NOAA requests an increase of \$1,992,000 and 0 FTE for a total of \$30,241,000 and 104 FTE to increase the frequency and density of in-situ and remotely sensed data through additional base flight hours. Additional flight hours will support hurricane reconnaissance and surveillance, high impact weather, and satellite calibration and validation.

Proposed Actions:

AOC will provide an additional 595 flight hours of critical in-situ observations supporting NOAA's mission to promote global environmental assessment, prediction and stewardship of the Earth's environment. The flight hours will support hurricane reconnaissance and research missions aimed at improving hurricane intensity forecasts including the only three tail mounted Doppler radars in the world on the WP-3 and G-IV. Additional hours will provide observations necessary for accurate and reliable winter storm warnings. Further hours will support snow surveys that allow water managers and forecasters to more accurately forecast spring melts to meet industrial, agricultural, and human needs. International partners rely on AOC to conduct satellite ocean wind sensor calibration and validations. In return, our partners provide ocean wind data that is used to improve hurricane forecasts. NOAA aircraft provide a comprehensive suite of data-collection systems in support of these projects.

Statement of Need and Economic Benefits:

The Aircraft Fleet support activities that impact a broad range of activities in the U.S. AOC provides aircraft with unique observing capabilities including three tail mounted Doppler radars. These radars are designed to observe the structure of severe weather and provide the necessary data to better predict the impact of severe weather.

The accuracy of hurricane track and intensity forecasts helps mitigate the impact of hurricanes, which average \$10 billion per landfalling storm and \$1 million per mile for evacuations. AOC provides NOAA scientists the in-situ observations that are necessary to continue improvements to hurricane track and intensity forecasts. As a member of the Interagency National Hurricane Operations Plan (NHOP), AOC is responsible for augmenting Air Force Reserve capabilities typically flying 10 percent of total hurricane operation flight hours. The increased hours will provide more accurate hurricane intensity and track forecasts to help state and federal planners mitigate losses of property and life from these devastating storms.

High impact weather is severe weather events from tornados to snow storms that impact the daily routines of thousands of people. AOC operates the aircraft in support of winter storms and water resource management. Improved forecasts help state and local communities prepare for major wind, rain, and snow events allowing equipment to be pre-positioned and supplies moved into communities before they are needed. Snow Surveys of mountain packs helps to inform water managers and forecasters of the volume of water anticipated during spring melts. Better forecasts improve reservoir and dam management allowing water managers to better determine water levels and reduce flood risks, while still allowing them meeting the needs of their customers.

Satellites are multi-billion dollar investments that can only provide their broad coverage and continuous observational capability if they are properly calibrated and validated with Earth based instruments. AOC plays a role in ensuring ocean surface vector winds satellites operated by international partners are regularly calibrated and validated ensuring accurate and reliable data. The accuracy of these satellite based observations plays a critical role in marine wind speed and wave height forecasts. In order to meet the calibration and validation requirements, AOC operates aircraft

with instruments similar to those on the satellites allowing NOAA personnel to validate satellite data and make any necessary adjustments to their calibration.

Base Resource Assessment:

The Base Resource Assessment is provided in the Aircraft Services Base Narrative.

Schedule & Milestones:

FY2013 – 2017:

Achieve and maintain a Base Flight Hours of 1,975; by annually flying an additional:

- 170 Flight Hours for Hurricane Operations and Research
- 410 Flight Hours for High Impact Weather
- 15 Flight Hours for Calibration and Validation

Deliverables:

- Hurricane Operations and Research
 - Additional 100 Hurricane Reconnaissance Flight Hours
 - Additional 60 Hurricane Surveillance Flight Hours
 - Additional 10 Hurricane Research Flight Hours
- High Impact Weather
 - Additional 145 Winter Storms Reconnaissance Flight Hours
 - Additional 265 Snow Survey Flight Hours
- Calibration and Validation
 - Additional 15 Ocean Winds Winter Flight Hours

Performance Goals and Measurement Data:

| Performance Measure: | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Base Flight Hours | Actual | Target | Target | Target | Target | Target | Target |
| with increase | N/A | N/A | 1,975 | 1,975 | 1,975 | 1,975 | 1,975 |
| without increase | 1,876 | 1,330 | 1,380 | 1,380 | 1,380 | 1,380 | 1,380 |
| Discussion: Base funded mission flight hours | | | | | | | |

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Office of Marine and Aviation Operations
Subactivity: Aviation Operations

| Object Class | 2013 Increase |
|--|--------------------------|
| 11 Personnel compensation | 0 |
| 11.1 Full-time permanent | 0 |
| 11.3 Other than full-time permanent | 0 |
| 11.5 Other personnel compensation | 50 |
| 11.8 Special personnel services payments | 0 |
| 11.9 Total personnel compensation | 50 |
| 12 Civilian personnel benefits | 0 |
| 13 Benefits for former personnel | 0 |
| 21 Travel and transportation of persons | 0 |
| 22 Transportation of things | 0 |
| 23.1 Rental payments to GSA | 0 |
| 23.2 Rental Payments to others | 0 |
| 23.3 Communications, utilities and miscellaneous charges | 0 |
| 24 Printing and reproduction | 0 |
| 25.1 Advisory and assistance services | 0 |
| 25.2 Other services | 1,031 |
| 25.3 Purchases of goods & services from Gov't accounts | 0 |
| 25.4 Operation and maintenance of facilities | 0 |
| 25.5 Research and development contracts | 0 |
| 25.6 Medical care | 0 |
| 25.7 Operation and maintenance of equipment | 0 |
| 25.8 Subsistence and support of persons | 0 |
| 26 Supplies and materials | 911 |
| 31 Equipment | 0 |
| 32 Lands and structures | 0 |
| 33 Investments and loans | 0 |
| 41 Grants, subsidies and contributions | 0 |
| 42 Insurance claims and indemnities | 0 |
| 43 Interest and dividends | 0 |
| 44 Refunds | 0 |
| 99 Total obligations | 1,992 |

**APPROPRIATION ACCOUNT: PROCUREMENT, ACQUISITION AND CONSTRUCTION
SUBACTIVITY: FLEET REPLACEMENT PROGRAM**

The Fleet Replacement Program (FRP) develops the requirements, acquisition strategies, and monitors the modernization and construction of the ships in order to meet NOAA's DAS in-situ observing requirements. FRP oversees government and contractual resources necessary to design, equip, construct or modernize the ships and ship-board systems. NOAA ships face challenges similar to other observational infrastructure including expanded mission requirements, age and obsolescence, and finite resources for recapitalization. NOAA has successfully developed, adapted, and fielded a number of technologies that have enhanced the capabilities of NOAA ships and is currently evaluating a number of technologies that have potential to contribute to more effectively and efficiently meet collection requirements. FRP receives sustained funding for ongoing activities related to modernization and current ship construction activities as delineated in the 2008 Ship Recapitalization Plan (Ship Recapitalization Plan)

Fleet Capital Investment and Technology Infusion (FCITI) is designed to maintain and extend the service life of the ship fleet by ensuring required upgrades to ship board systems and mission equipment in line with the needs of the programs and safety requirements. FCITI monitors the material condition of the ships using, a Structural Systems Mechanical Engineering Inspection (SSME), which capture the ship's condition after each Dockside (DS), Drydock (DD), or Major Repair Period (MRP). The SSME documents the results of inspections and identifies future work data, which will guide future capital investment decision making. At the same time, OMAO will use manufacturer provided information for new ships to develop maintenance profiles. As information is gathered through these means, the investment decision model will be continually updated.

New Vessel Construction (NVC) receives sustained funding for ensuring proper oversight of ship construction activities by enabling a cadre of government experts is available to evaluate requirements, review proposals, and monitor progress towards achieving goals. Currently, NVC sustains contract oversight for construction of the newest Fisheries Research Vessel (FSV) 6, the *Rueben Lasker* that was funded under the American Reinvestment and Recovery Act (ARRA).

NOAA Ship Recapitalization Plan

In 2008, NOAA submitted a Ship Recapitalization Plan to Congress (http://www.oma.noaa.gov/publications/08_ship_recap_plan.pdf), which was a comprehensive plan designed to systematically replace or upgrade the fleet in order to meet the ever changing and evolving demands of the scientific community. Specially, the plan examined 10 of the fleet's 19 ships that would reach the end of their useful service life over the next 15 years reducing the average age of the fleet by 9.6 years by 2025. Since delivering the plan, Congress has appropriated funding via ARRA for construction of FSV6 and MRPs on the *Rainer* and *Oregon II*.

For the past five years the Ship Recapitalization Plan has served as a guide for planned investments, but events since 2008 have lead NOAA to reassess our current recapitalization strategy through an internal review process, the NOAA Fleet Plan, to assess current and future NOAA in-situ ocean observing platforms.

The objectives of the Fleet Replacement Program are:

- Ensure the proper maintenance and safety of NOAA ships within American Bureau of Shipping, U.S. Coast Guard, Environmental Protection Agency, and applicable international requirements.
- Ensure proper oversight of the design and construction of new ships that meet all applicable federal regulations.

FY 2011 Program Accomplishments:

- The NOAA Ship *Reuben Lasker* (FSV6) keel laying ceremony was held June 21, 2011 at Marinette Marine Corporation in Marinette, WI. The keel laying marked the beginning of major construction efforts for the future NOAA Ship *Reuben Lasker*.
- Completed installation of a Kongsberg EM710 multi-beam sonar system during the *Rainier* Major Repair Period (MRP). The new sonar system will provide high resolution seabed mapping capability.

Schedule & Milestones:

FY 2013

- *Reuben Lasker* delivery and Post Shipyard Availability (PSA); operational “shakedown” days.

PROGRAM CHANGES FOR FY 2013:

Fleet Capital Improvements & Technology Infusion: NOAA Ship *Thomas Jefferson* Major Repair Period (MRP) (Base Funding: \$1,000,000 and 0 FTE; Program Change: +\$10,712,000 and 0 FTE):

NOAA requests an increase of \$10,712,000 and 0 FTE for a total of \$11,712,000 and 0 FTE to address high priority repairs to extend the operational service life of the ship. Repairs will include mandatory upgrades and repairs to ship board systems, in-situ observing mission systems, and crew safety.

Proposed Actions:

The proposed MRP will provide the necessary capital investments in ship board systems, in-situ observing mission equipment, and crew safety that will allow OMAO to continue to operate the NOAA Ship *Thomas Jefferson* in a safe and efficient manner. The *Thomas Jefferson* is a T-AGOS class Oceanographic Survey ship built in 1993 and operated by NOAA since 2003. As the ship reaches the nominal end of its service life, mechanical systems are beginning to fail at a higher rate with fewer machinery and equipment supported by its original manufacturer. Recent NOAA fleet inspections and regular maintenance periods show accelerated deterioration of several key ship board systems and the discovery of equipment no longer supported by the manufacturer risks American Bureau of Shipping (ABS) certification requirements and further increases in lost DAS. Without the capital investment, the end result may ultimately be the premature retirement of the *Thomas Jefferson*.

Continued advances in technology allow for improved ship capacity to survey and process hydrographic data for nautical charting. Sensors for collecting chart data have a similar, but slightly longer life as personal computers where technology continues to advance and the older models are no longer supported. The cumulative result is the need for capital investment beyond routine maintenance to ensure ship readiness and safe operation. An MRP will typically extend the useful life of the ship at least five years and guides future determinations of regular maintenance. The table below shows the estimated cost breakdown of the MRP goals and specific types of equipment.

| Ship-Board Systems | Mission Support Equipment | Electronics | Mandatory Certification | Growth |
|--|---|---|---|--|
| \$3,200 | \$3,300 | \$2,400 | \$1,000 | \$1,812 |
| Piping systems (fresh, grey, and black water) | Cranes, Winches, & HSL Davits | Replace unsupported navigation, communications and ship control systems with new technology | Dry docking, mandatory dry dock repairs, | Unknown deficiencies discovered during MRP |
| Heating, Ventilation and Air Conditioning (HVAC) | Small boat refurbishing | Refresh Ship-Board electronic data processing and storage technology | ABS Inspections to maintain ABS Certification | Inflationary growth |
| Refrigeration systems | Hydrographic Survey Systems - shallow, mid, and deep water transducers and associated sensors | | Associated Inspections to maintain various certifications | |
| Fresh water production | | | | |

Statement of Need and Economic Benefits:

The *Thomas Jefferson* is currently the only NOAA ship conducting hydrographic surveys in the Atlantic and Gulf of Mexico and is a work horse of the NOAA Fleet. Originally a U.S. Navy ship, anti-submarine warfare platform, the *Thomas Jefferson's* efficiency at slower speed, varied sonar

configurations, and outfitting with Hydrographic Survey Launches (HSL) make the ship an excellent multi-platform hydrographic survey vessel. An HSL is equipped with electronic and sonar systems that scan the sea floor to determine least water depths and locate obstructions, shoaling, wreckage, and other dangers to navigation. HSLs operate in areas too shallow for the ships to enter as well as expand the overall survey areas that can be covered within a given period of time.

Between 2006 and 2010 the ship averaged 42 percent of all the east coast hydrographic surveys, conducted 41 percent of the total linear nautical miles surveyed by NOAA hydrographic ships, and produced 14 percent of the total linear nautical miles surveyed by NOAA . The *Thomas Jefferson* conducted critical hydrographic surveys in New York Harbor in 2006 and following natural disasters in the Tidewater, Virginia ports in 2010 and 2011. Accurate nautical charts play a critical role ensuring safe transport of in U.S. exports which supported 10.3 million jobs, accounting for 6.9 percent of U.S. employment in 2008.

Due to the condition of the ship, restrictions were placed on the HSL Davits due to safety concerns. This limits the ability of the *Thomas Jefferson* to conduct multi-HSL operations, reducing the effectiveness of the ship. Existing multi-beam sonar systems are quickly becoming obsolete with parts no longer manufactured and manufacturers moving to the latest technologies to keep pace with the market. During the MRP, NOAA can take advantage of advances in technology providing better resolution and faster processing speeds. A critical aspect of hydrographic surveys is the ability to process and store data. Improvements to the existing observing system will require complementary upgrades to ship-board information technology systems.

Base Resource Assessment:

The base resource assessment is provided in the Fleet Replacement base narrative.

Schedule and Milestones:

FY 2013

- Publish Solicitations (Q1)
- Award Contracts (Q4)
- Begin Industrial Work (Q4)

FY 2014

- Complete Industrial Work and Return to Service (Q3)

Deliverables:

- Improved working and living environment for wage mariner satisfaction
- Fully functioning mission equipment to meet the state of science needs
- Reliable, supportable in-situ observing capabilities
- Compliance with all applicable statues and regulations

Performance Goals and Measurement Data:

| Performance Measures: | FY 2011 Actual | FY 2012 Target | FY 2013 Target | FY 2014 Target | FY 2015 Target | FY 2016 Target | FY 2017 Target |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Reduce the hydrographic survey backlog within navigationally significant areas (square nautical miles) (measure 18f) | | | | | | | |
| With Increase | N/A | N/A | 3,400 | 2,800 | 3,400 | 3,400 | 3,400 |
| Without Increase | 2,278 | 2,200 | 3,400 | 2,500 | 2,500 | 2,500 | 2,500 |
| Note: The with increase assumes limited operations of the ship in FY 2014. The measure includes only base funded days at sea. | | | | | | | |

Outyear Funding Estimates (\$ in thousands):

| FCITI | FY 2012 & Prior | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | CTC | Total |
|--------------------------|----------------------------|----------------|----------------|----------------|----------------|----------------|------------|--------------|
| Change from FY 2013 Base | 0 | 10,712 | 0 | 0 | 0 | 0 | 0 | 10,712 |
| Total Request | 1,000 | 11,712 | 0 | 0 | 0 | 0 | 0 | 11,712 |

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Office of Marine and Aviation Operations
Subactivity: Fleet Replacement Program

| Object Class | 2013 Increase |
|--|--------------------------|
| 11 Personnel compensation | 0 |
| 11.1 Full-time permanent | 0 |
| 11.3 Other than full-time permanent | 0 |
| 11.5 Other personnel compensation | 0 |
| 11.8 Special personnel services payments | 0 |
| 11.9 Total personnel compensation | 0 |
| 12 Civilian personnel benefits | 0 |
| 13 Benefits for former personnel | 0 |
| 21 Travel and transportation of persons | 0 |
| 22 Transportation of things | 0 |
| 23.1 Rental payments to GSA | 0 |
| 23.2 Rental Payments to others | 0 |
| 23.3 Communications, utilities and miscellaneous charges | 0 |
| 24 Printing and reproduction | 0 |
| 25.1 Advisory and assistance services | 3,428 |
| 25.2 Other services | 7,284 |
| 25.3 Purchases of goods & services from Gov't accounts | 0 |
| 25.4 Operation and maintenance of facilities | 0 |
| 25.5 Research and development contracts | 0 |
| 25.6 Medical care | 0 |
| 25.7 Operation and maintenance of equipment | 0 |
| 25.8 Subsistence and support of persons | 0 |
| 26 Supplies and materials | 0 |
| 31 Equipment | 0 |
| 32 Lands and structures | 0 |
| 33 Investments and loans | 0 |
| 41 Grants, subsidies and contributions | 0 |
| 42 Insurance claims and indemnities | 0 |
| 43 Interest and dividends | 0 |
| 44 Refunds | 0 |
| 99 Total obligations | 10,712 |

New Vessel Construction: Fisheries Survey Vessel 6 Acquisition – Preliminary Delivery and Post Shipyard Availability Period (Base Funding: \$1,392,000 and 5 FTE; Program Change: +\$1,505,000 and 0 FTE): NOAA requests a planned increase of \$1,505,000 and 0 FTE for a total of \$2,897,000 and 5 FTE for activities to complete preliminary delivery, post-shipyard shakedown, performance of initial operations and final acceptance, shipyard periods, and contract close out for the newest fisheries survey vessel, the NOAA Ship *Reuben Lasker*. A total of \$79,843,000 was provided in the FY 2009 American Recovery and Reinvestment Act for the detailed design and construction. The request is consistent with the profile approved prior to contract award.

Proposed Actions

The NOAA Ship *Reuben Lasker* is the fifth and newest Oscar Dyson class fisheries survey vessel and replaces the NOAA Ship *David Starr Jordan*. The *Reuben Lasker* will support activities at NMFS's Southwest Fisheries Science Center. The additional funding will support preliminary delivery, post-shipyard shakedown events and availabilities, initial operations and final acceptance of the NOAA ship. After preliminary acceptance from the shipyard, a nine month warranty period starts, and NOAA will begin overlapping initial ships operations, crew phase-up/training, and ship mission system shakedown period. Based on prior experience with Oscar Dyson class ships, NOAA anticipates up to three Post Shakedown Availability (PSA) periods where industrial work will be performed, but not covered by warranty. Two PSA acoustic trials will be conducted at US Navy testing areas. The first will occur prior to initial delivery at the Atlantic Undersea Test and Evaluation Center at Andros Island, Bahamas. The second will occur prior to final ship acceptance at the Southeast Alaska Acoustic Measurement Facility in Ketchikan, Alaska.

Statement of Need and Economic Benefits:

The NOAA Ship *Reuben Lasker* is among the most advanced fisheries survey vessels in the world. The ship will support fishery-independent surveys for NOAA stock assessments and protected species status reviews required by the reauthorized Magnuson-Stevens Act (MSA), Marine Mammal Protection Act (MMPA), and Endangered Species Act (ESA).

The ship has enhanced capabilities and extended operating range that will increase both the frequency and precision of current assessments and support new assessments. Under MSA, Annual Catch Limits (ACLs) are set under rigid timeframes using the best scientific data available. The greater precision will allow NMFS to set more accurate ACLs for the multi-billion dollar US fishing industry, impacting thousands of local fisheries and regional economies. Additionally, MMPA and ESA require regular status updates of protected species assessments.

NOAA requires these funds for contractor performance assessments and critical engineering changes that were not anticipated in the initial acquisition of the vessel. A lack of funding would jeopardize the normal preliminary delivery and post construction shipyard activities would be curtailed or canceled. The acoustic rangings are Government responsible evaluations required by the *Rueben Lasker* detailed design and construction contract. The ship's acoustic signature determined by the acoustic ranging results are required to confirm whether the ship's acoustic performance meets International Council for the Exploration of the Seas (ICES) contract requirements.

Base Resource Assessment:

The base resources for this activity are described in the Fleet Replacement base narrative.

Schedule and Milestones:

FY 2013

- Preliminary delivery of and post-shipyard shakedown events and availabilities for FSV6.
- Perform initial operations and take final acceptance of FSV6.

Deliverables:

- NOAA Ship *Reuben Lasker* (FSV6)

Performance Goals and Measurement Data

| Performance Measures: | FY |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Percent of Living Marine Resources with Adequate Population Assessments | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| | Actual | Target | Target | Target | Target | Target | Target |
| With Increase | N/A | N/A | N/A | N/A | 19.1% | 19.1% | 19.1% |
| Without Increase | N/A | N/A | (1.8%) | (2.7%) | (3.6%) | (4.5%) | (4.5%) |

Note: Includes only base funded days at sea.

Outyear Funding Estimates (\$ in thousands):

| FSV6 | FY 2012 & Prior | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | CTC | Total |
|------------------|----------------------------|----------------|----------------|----------------|----------------|----------------|------------|--------------|
| Change from base | | 1,505 | 0 | 0 | 0 | 0 | | 1,505 |
| Total Request | 81,343 | 2,897 | 0 | 0 | 0 | 0 | 0 | 84,240 |

PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Office of Marine and Aviation Operations
Subactivity: Fleet Replacement Program

| Object Class | 2013 Increase |
|--|--------------------------|
| 11 Personnel compensation | |
| 11.1 Full-time permanent | - |
| 11.3 Other than full-time permanent | - |
| 11.5 Other personnel compensation | - |
| 11.8 Special personnel services payments | - |
| 11.9 Total personnel compensation | - |
| 12 Civilian personnel benefits | - |
| 13 Benefits for former personnel | - |
| 21 Travel and transportation of persons | - |
| 22 Transportation of things | - |
| 23.1 Rental payments to GSA | - |
| 23.2 Rental Payments to others | - |
| 23.3 Communications, utilities and miscellaneous charges | - |
| 24 Printing and reproduction | - |
| 25.1 Advisory and assistance services | 1,505 |
| 25.2 Other services | - |
| 25.3 Purchases of goods & services from Gov't accounts | - |
| 25.4 Operation and maintenance of facilities | - |
| 25.5 Research and development contracts | - |
| 25.6 Medical care | - |
| 25.7 Operation and maintenance of equipment | - |
| 25.8 Subsistence and support of persons | - |
| 26 Supplies and materials | - |
| 31 Equipment | - |
| 32 Lands and structures | - |
| 33 Investments and loans | - |
| 41 Grants, subsidies and contributions | - |
| 42 Insurance claims and indemnities | - |
| 43 Interest and dividends | - |
| 44 Refunds | - |
| 99 Total obligations | 1,505 |

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Appropriation Account: NOAA Corps Retirement Pay (Mandatory)

The retirement system for the uniformed services provides a measure of financial security after release from active duty for service members and their survivors. It is an important factor in the choice of a career in the uniformed services, and the legal mandate for rates to be paid is the same for all uniformed services, see 10 USC. Retired pay is an entitlement to NOAA Commissioned Corps officers under 33 USCA 3044, 33 USCA 3045, and 33 USCA 3046. Retired pay funds are transferred to the U.S. Coast Guard, which handles the payments each year as adjusted pursuant to the Department of Defense Authorization legislation. Healthcare funds for non-Medicare-eligible retirees, dependents, and annuitants are administered by OMAO.

Legal authority for retirement of NOAA Commissioned Corps officers is contained in 33 USCA 3044. Retired officers of the NOAA Commissioned Corps receive retirement benefits that are administered by the Commissioned Personnel Center within the Office of Marine and Aviation Operations.

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Department of Commerce
 National Oceanic and Atmospheric Administration
 NOAA Corps Retirement Pay (Mandatory)
SUMMARY OF RESOURCE REQUIREMENTS
 (Dollar amounts in thousands)

| | | Positions | | FTE | | Budget Authority | | Direct Obligations | | | |
|---|---------|---------------------|--------|--------------------|--------|------------------|--------|--------------------|--------|-----------|--------|
| FY 2012 Currently Available | | 0 | | 0 | | 28,269 | | 28,269 | | | |
| plus: 2013 Adjustments to Base | | 0 | | 0 | | 0 | | 0 | | | |
| FY 2013 Base | | 0 | | 0 | | 28,269 | | 28,269 | | | |
| plus: 2013 Program Changes | | 0 | | 0 | | 0 | | 0 | | | |
| FY 2013 Estimate | | 0 | | 0 | | 28,269 | | 28,269 | | | |
| | | FY 2011 | | FY 2012 | | FY 2013 | | FY 2013 | | Increase/ | |
| | | Currently Available | | President's Budget | | Base Program | | Estimate | | Decrease | |
| Comparison by activity/subactivity | | Personnel | Amount | Personnel | Amount | Personnel | Amount | Personnel | Amount | Personnel | Amount |
| Medicare Eligible Retiree | Pos/BA | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 0 |
| Health Fund Contribution - NOAA Corps | FTE/OBL | 0 | 24,286 | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 0 |
| Total: Medicare Eligible Retiree | Pos/BA | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 0 |
| Health Fund | FTE/OBL | 0 | 24,286 | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 0 |

Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Corps Retirement Pay (Mandatory)
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

| | FY 2011 Actuals | | FY 2012 Currently Available | | FY 2013 Base Program | | FY 2013 Estimate | | Increase/ Decrease | |
|--|--------------------|---------------|--------------------------------|---------------|-------------------------|---------------|---------------------|---------------|-----------------------|----------|
| | FTE | Amount | FTE | Amount | FTE | Amount | FTE | Amount | FTE | Amount |
| Direct Discretionary Obligation | 0 | 24,286 | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 0 |
| Total Obligations | 0 | 24,286 | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 0 |
| Adjustments to Obligations: | | | | | | | | | | |
| Unobligated balance | 0 | 3,983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Budget Authority | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 0 |
| Financing from Transfers and Other: | | | | | | | | | | |
| Net Appropriation | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 28,269 | 0 | 0 |

Appropriation Account: Medicare-Eligible Retiree Healthcare Fund Contribution - NOAA Corps

The FY 2003 Department of Defense Authorization Act requires all uniformed services, including NOAA, to participate in an accrual fund for Medicare-eligible retirees. Payments into this accrual fund will cover the future health care benefits of present, active-duty NOAA officers and their dependents and annuitants. For FY 2013, payments to the accrual fund are estimated at \$1,936,000.

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Department of Commerce
 National Oceanic and Atmospheric Administration
 Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
SUMMARY OF RESOURCE REQUIREMENTS
 (Dollar amounts in thousands)

| | Positions | FTE | Budget Authority | Direct Obligations |
|--------------------------------|-----------|-----|------------------|--------------------|
| FY 2012 Currently Available | 0 | 0 | 1,936 | 1,936 |
| plus: 2013 Adjustments to Base | 0 | 0 | 0 | 0 |
| FY 2013 Base | 0 | 0 | 1,936 | 1,936 |
| plus: 2013 Program Changes | 0 | 0 | 0 | 0 |
| FY 2013 Estimate | 0 | 0 | 1,936 | 1,936 |

| Comparison by activity/subactivity | | FY 2011 Actuals | | FY 2012 Currently Available | | FY 2013 Base Program | | FY 2013 Estimate | | Increase/Decrease | |
|--|---------|-----------------|--------|-----------------------------|--------|----------------------|--------|------------------|--------|-------------------|--------|
| | | Personnel | Amount | Personnel | Amount | Personnel | Amount | Personnel | Amount | Personnel | Amount |
| Medicare Eligible | Pos/BA | 0 | 1,832 | 0 | 1,936 | 0 | 1,936 | 0 | 1,936 | 0 | 0 |
| Retiree Health Fund Contribution - NOAA | FTE/OBL | 0 | 1,832 | 0 | 1,936 | 0 | 1,936 | 0 | 1,936 | 0 | 0 |
| Total: Medicare Eligible Retiree Health Fund | Pos/BA | 0 | 1,832 | 0 | 1,936 | 0 | 1,936 | 0 | 1,936 | 0 | 0 |
| | FTE/OBL | 0 | 1,832 | 0 | 1,936 | 0 | 1,936 | 0 | 1,936 | 0 | 0 |

Department of Commerce
 National Oceanic and Atmospheric Administration
 Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
SUMMARY OF RESOURCE REQUIREMENTS
 (Dollar amounts in thousands)

| | FY 2011 | | FY 2012 | | FY 2013 | | FY 2013 | | Increase/ Decrease | |
|--|----------|--------------|---------------------|--------------|--------------|--------------|----------|--------------|-----------------------|----------|
| | Actuals | | Currently Available | | Base Program | | Estimate | | FTE | Amount |
| | FTE | Amount | FTE | Amount | FTE | Amount | FTE | Amount | FTE | Amount |
| Direct Discretionary Obligation | 0 | 1,832 | 0 | 1,936 | 0 | 1,936 | 0 | 1,936 | 0 | 0 |
| Total Obligations | 0 | 1,832 | 0 | 1,936 | 0 | 1,936 | 0 | 1,936 | 0 | 0 |
| Adjustments to Obligations: | | | | | | | | | | |
| Total Budget Authority | 0 | 1,832 | 0 | 1,936 | 0 | 1,936 | 0 | 1,936 | 0 | 0 |
| Financing from Transfers and Other: | | | | | | | | | | |
| Net Appropriation | 0 | 1,832 | 0 | 1,936 | 0 | 1,936 | 0 | 1,936 | 0 | 0 |

Department of Commerce
 National Oceanic and Atmospheric Administration
 Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

| | FY 2011 | FY 2012 | FY 2013 | FY 2013 | Increase/ (Decrease) |
|---|----------------|----------------------------|--------------|-----------------|-------------------------|
| Object Class | <u>Actuals</u> | <u>Currently Available</u> | <u>Base</u> | <u>Estimate</u> | <u>over 2012 Base</u> |
| Other purchases of goods and services from Gov't accounts | 1,832 | 1,936 | 1,936 | 1,936 | 0 |
| Total Obligations | 1,832 | 1,936 | 1,936 | 1,936 | 0 |
| Less prior year recoveries | 0 | 0 | 0 | 0 | 0 |
| Less unobligated balance, SOY | 0 | 0 | 0 | 0 | 0 |
| Plus unobligated balance, EOY | 0 | 0 | 0 | 0 | 0 |
| Offsetting collections, Mandatory | 0 | 0 | 0 | 0 | 0 |
| Less: Previously Unavail. Unoblig. Bal. | 0 | 0 | 0 | 0 | 0 |
| Total Budget Authority Mandatory | 1,832 | 1,936 | 1,936 | 1,936 | 0 |
| Personnel Data | | | | | |
| Full-Time equivalent Employment: | | | | | |
| Full-time permanent | 0 | 0 | 0 | 0 | 0 |
| Other than full-time permanent | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 |
| Authorized Positions: | | | | | |
| Full-time permanent | 0 | 0 | 0 | 0 | 0 |
| Other than full-time permanent | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 |

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