



FY08 Budget Update

**Office of Marine and Aviation Operations
February, 2008**



FY08 Budget Update

- **FY08 Enacted Budget and Higher Fuel Cost Will Impact Fleet Allocation Plan and Marine Services Charter**
- **FY08 Enacted Appropriation is ~\$3.3M (2.5%) below President's Budget in for ship operations.**
- **OMAO Suggested Approach to Funding Shortfall:**
 - Charter: \$140K (2.5% of the FY08 planned charter funds of \$5.6M)
– OAR = \$88K, NOS = \$52K
 - NOAA Ship Operations & OMAO Corporate: ~\$3.2M
- **Fleet Council Approach to Funding Shortfall:**
 - Charter: OAR = \$88K, NOS = ~\$670K



Ship Acquisition Update

Office of Marine and Aviation Operations
February, 2008



Outline



- **FERDINAND R. HASSLER (SWATH)**
- **DYSON (FSV1) and BIGELOW (FSV2)**
- **PISCES (FSV3) and BELL M. SHIMADA (FSV4)**
- **OKEANOS EXPLORER**



FERDINAND R. HASSLER (SWATH)



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FERDINAND R. HASSLER (SWATH)



- The National Ocean Service (NOS) produces over 1,000 nautical charts to facilitate safe navigation
- NOAA's hydrographic ships are aging, with the RUDE being the oldest (built in 1966)
- Twin hullform provides a more stable platform in higher sea states over conventional monohull design
- One ship is being acquired
- Detailed design and construction is currently underway at VT Halter (VTHM), Moss Point, MS
 - Firm-Fixed Price Contract



FERDINAND R. HASSLER (SWATH)



▪ Schedule

- Current contract delivery date is December 31, 2008
- Schedule Risk – High
 - Contract modification implemented to resolve two contentious issues:
 - Delays attributable to delivery of Caterpillar C32 propulsion engines affected by EPA regulation changes
 - VTHM issues with their production engineering effort
 - Pricing for Vessel Capability Improvement engineering changes (ECPs) has been received and reviewed
 - Negotiations with VTHM were held December 18, 2007
 - ECP implementation will push HASSLER delivery beyond the current December 31, 2008 date



FERDINAND R. HASSLER (SWATH)



HASSLER Construction 11/28/07



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FERDINAND R. HASSLER (SWATH)

HASSLER Construction 12/14/07



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FERDINAND R. HASSLER (SWATH)

HASSLER Construction 12/14/07



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FERDINAND R. HASSLER (SWATH)



- **Contractor Performance**
 - Engineering and production performance improving after resolution of initial roadblocks
 - Ship overall weight remains an issue
 - Restricted draft at UNH established limitation
 - HASSLER design draft 3.7 m (12.1 ft)



FSV Project Summary

- **Mission: Protect, restore, and manage the use of living marine, coastal, and ocean resources through ecosystem-based management.**
 - Stock assessment (including hydro-acoustic surveys)
 - Physical and biological oceanography
 - Fisheries oceanography
 - Weather and sea state observation
 - Gear development
 - Habitat studies
- **Systems Acquisition:**
 - Four ships; two delivered
 - Firm-Fixed Price Contract with acoustic incentives
- **Current Acquisition Phase: Production at VT Halter, Moss Point, MS**
 - PISCES (FSV 3) – construction ongoing; launched December 19, 2007
 - BELL M. SHIMADA (FSV 4) – construction ongoing; keel laid June 15, 2007; launch scheduled September 9, 2008

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DYSON and BIGELOW (FSVs 1 & 2)

■ Technical Performance

- Overall technical performance of DYSON and BIGELOW continues to be problematic
- Challenges continue...
 - DYSON generators
 - BIGELOW Switchboard/Generator instability
 - DYSON/BIGELOW Generator End Cap Banding
 - Generator banding (end cap) which holds the generator windings in place severely cracked on all four DYSON generators
 - » All four generators were removed through a hull cut while the ship was in dry dock at Todd Shipyard in Seattle
 - BIGELOW has evidence of cracks, but appears less severe
 - PISCES and SHIMADA will have different generators: Kato vs. Ansaldo



DYSON and BIGELOW (FSVs 1 & 2)

DYSON Generator Banding Cracks





DYSON and BIGELOW (FSVs 1 & 2)

DYSON Generator Banding Cracks



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PISCES and SHIMADA (FSVs 3 & 4)



PISCES Launch 12/19/07



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PISCES and SHIMADA (FSVs 3 & 4)

SHIMADA Construction 12/14/07



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PISCES and SHIMADA (FSVs 3 & 4)



- **Schedule**

- **PISCES (FSV3)**

- Contract delivery date June 19, 2008
 - VTHM's predicted delivery date is August 26, 2008

- **BELL M. SHIMADA (FSV 4)**

- Contract delivery date March 26, 2009
 - Delayed PISCES launch may have impact on SHIMADA delivery

- **Schedule Risk – High**

- Labor shortage persists in post-Hurricane Katrina environment
 - Competing contract awards for same shipyard workforce
 - Crowley ITB/Barges, Egyptian Patrol Boats (USN FMS), TAGM-R (USN -MSC), TAGS-66 (USN-MSC)
 - Monitoring FSV labor force as shipyard ramps up to service new contracts



OKEANOS EXPLORER



- **USNS CAPABLE (T-AGOS Class) transferred to NOAA – September 2004**
- **Working Requirements Group defines conversion requirements – October 2004 to January 2005**
- **Initial overhaul/conversion contract award (Phase 1 - Todd Pacific Shipyards) – August 2005**
 - **Included the majority of the structural, propulsion, and auxiliary systems upgrades slated to be performed**
 - **Several important conversion items not included due to funding constraints**
- **Decision made to incorporate a second phase in the acquisition schedule to complete conversion items prior to mission availability – July 2006**
- **Phase I overhaul/conversion period complete – September 2007**



OKEANOS EXPLORER



- **Second (Phase II) conversion period initiated – September 2007**
 - **Shipyard services contract (Puglia Engineering)**
 - Construction and outfitting of mission spaces
 - Communication system upgrades (e.g., sound-powered phone system, audio/visual system, closed circuit television system, and integrated communications system)
 - Scientific and shipboard computer systems infrastructure
 - Acoustic systems (e.g., sonar fairing modifications and installation of sub-bottom profiler and deep water echo sounder)
 - Habitability upgrades (e.g., stateroom modifications and waste water system)
 - “Telepresence” system design and build (Phoenix International)
 - VSAT system design and build (MTN)
 - Computer/networking equipment (various)



OKEANOS EXPLORER



- **Phase II shipyard work expected to be completed by March 31, 2008**
- **Integration period follows dedicated primarily to installation, acceptance testing, and integration of the telepresence and VSAT systems and shipboard computer and networking equipment**
 - **OER's remotely-operated underwater vehicle (ROV) will also be installed and integrated with other ship systems**
- **Following system integration, the ship will conduct a series of shakedown cruises focused on:**
 - **Crew training and testing of ship and mission systems and equipment**
 - **Testing and evaluation of the capabilities of the systems to meet ocean exploration objectives**



OKEANOS EXPLORER



- The ship will be operational upon completion of the shakedown period, tentatively scheduled for mid-summer 2008.
- For the remainder of the FY2008 and early into the 2009 field season, the ship will be engaged in "field trials" in the Pacific Ocean. Trials will focus on:
 - Developing, refining and executing Standard Operating Procedures for three modes of operations: seafloor characterization; water column exploration; and reconnaissance
 - Collecting data and preparing exploration products



OKEANOS EXPLORER



- **Phase 2 Risk Assessment – Low to Medium**
 - **Tele-presence system is unique and could present some technical risks**
 - **Separate design, build, install, and test contract with specialty manufacturer anticipated to increase NOAA control and oversight**
 - **VSAT antenna will be the largest, highest bandwidth in the fleet**
 - **Smaller units have been successfully installed on NOAA ships**
 - **All shipyard items will be completed under a firm fixed price basis to minimize cost risk**
 - **Phase I NOAA shipyard team has transitioned to Phase II to provide continuity**
 - **Complex post-Phase 2 shipyard shakedown phase will be a management challenge**