



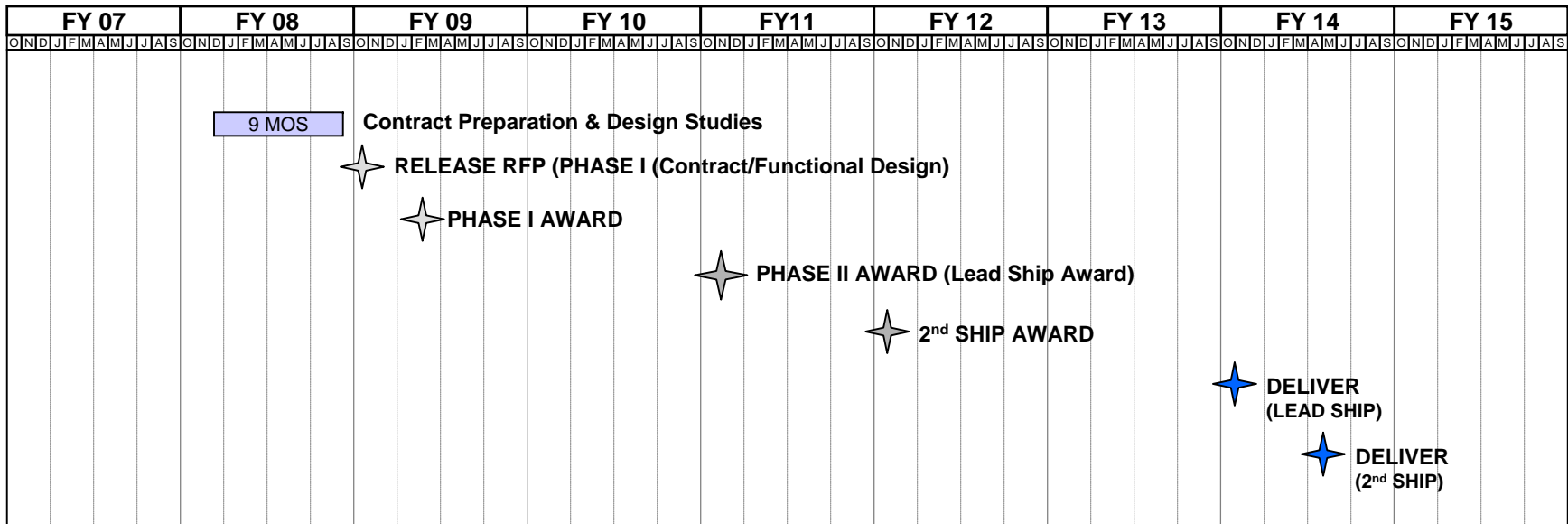
OCEAN Class AGOR Program Update





Ocean AGOR Project Status

- \$185M total budgeted for two ships, in FY11 and FY12
- Currently finalizing documents necessary to initiate program in FY08
- Notional Acquisition Plan:
 - FY08: preliminary work to validate cost estimates; contract preparation
 - FY09: Award Phase I design contract
 - FY11: Award Phase II detail design & construction contract (first ship)
 - FY12: Award second ship construction contract
 - FY14~15: Deliver both ships





Ocean Class Performance Parameters

OCEAN Class AGOR Performance Parameters			
	Threshold	Objective	UNOLS Science Mission Requirements
DIMENSIONS, AREAS, AND CAPACITIES			
Length	Not specified	Not specified	Not specified
Lab Space	1800 ft ²	2000 ft ²	approx 2000 ft ²
Working Deck (total)	2000 ft ²	2300 ft ²	2000 ft ² minimum
Aft Deck	1500 ft ²	-	1500 ft ² minimum
Side Deck	80 ft x 10 ft, overlapping aft deck	80 ft x 10 ft, in addition to aft deck	80 ft
Vans	Two standard vans	Two standard vans and two additional, possibly non-standard, vans.	Two standard 8 ft by 20 ft portable deck vans and the capability to carry up to two additional portable, possibly non-standard size, vans (500 sq ft total);
Science Storage	4000 ft ³	5000 ft ³	Approximately 5,000 cubic feet of storage space that could also be used as shop or workspace when needed would be desirable.
Variable Science Load	150 LT	250 LT	Variable science load should be 200 LT.
Navigational Draft (w/appendages)	19 ft	17 ft	A shallower draft, less than the 19-foot draft of the THOMPSON Class vessels is desirable for operations in shallow waters and to allow shallow depth mounting of ADCP transducers. On the other hand, a deeper draft could increase sea-keeping capabilities (which is a high priority for these vessels) and allow for increased endurance.



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ACCOMMODATIONS AND HABITABILITY			
Science Accommodations	20	25	20 to 25 non-crew personnel
Crew Accommodations	Officers in single staterooms; remainder of crew in doubles	All crew in singles	Maritime crew and resident technicians should be berthed in single person staterooms to the maximum extent possible
Crew Size	As reqd to meet regs - 21 est	As reqd to meet regs - 21 est	
Habitability	Meets IMO airborne noise	Meets IMO airborne noise	Attention to details that ensure effective work and living spaces.
PERFORMANCE			
Endurance (days)	40	40	40 days (20 transit and 20 station)
Range	10,000 NM	12,000 NM	Up to 10,800 nautical miles at optimal transit speeds.
Speed	cruise: 12 kts at 80% MCR; max: speed achievable with installed power	cruise: 12 kts at 80% MCR; max: speed achievable with installed power	12 knots sustainable through sea state 4
Sea keeping	Full Operability in sea state 4 (4.1 to 8.2 ft SWH)	Full Operability in sea state 5 (8.2 to 13.1 ft SWH)	Maximize ability to work in sea states 5 (2.5 to 4 m wave heights) and higher.
Station keeping	Maintain station at best heading in sea state 4 (4.1 ft to 8.2 ft SWH)	Maintain station at best heading in sea state 5 (8.2 to 13.1 ft SWH)	Dynamic positioning relative to a fixed position in 35 knot wind, sea state 5, and 2 knot current
Track line following	Maintain a trackline in sea state 4 (4.1 ft to 8.2 ft SWH)	Maintain a trackline in sea state 5 (8.2 ft to 13.1 ft SWH)	Maintain a track line within ± 5 meters of intended track and with a heading deviation (crab angle) of less than 45 degrees with 30 knots of wind, up to sea state 5 (2.5 - 4 m wave heights), and 2 knots of current.
ADA	Yes	Yes	



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NAVIGATION, COMMUNICATION, AND CONTROL			
Navigation	Best available commercial systems, including: - differential GPS - automatic radio detection finder - ship's depthfinder - inertial reference system with gyro backup - doppler speed log - 10- and 3- cm radars	same	Navigation, computing, voice and data communications through the best available systems using current expert advice. Systems should be specified as close to actual delivery as possible.
Data network and onboard computing			
Real time acquisition			
Comms – internal	Telephone system, public address system, and sound powered telephone system	Same	
Comms – external	Commercially available voice and data channels for continuous communications to shore stations, other ships, boats and aircraft including satellite, VHF, FAX, aircraft transceivers, cellular phone, INMARSAT B, and high speed data communications links	Same	
Ship control	- Maximum visibility of deck working areas during deployment and retrieval of equipment - Functions, communications, and layout of ship control must allow the close interaction of ship and science operations - The propulsion plant shall be designed to all	Same	Design for maximum visibility and effective ship control



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SCIENCE EQUIPMENT			
Winches, wires, frames, and cranes	"a suite of modern cranes, winches, stern frame, side handling appliances, and other deck gear to permit loading and unloading of the ship without assistance and conducting a variety of oceanographic operations at sea, such as coring, water sampling, equ	Same	New generation oceanographic winches, frames, cranes, and other weight handling equipment that are integral parts of an equipment handling and deployment system. Winches should provide fine control (0.1 m/min under full load); maximum winch speeds should
Sonar Systems	Includes:	1x1 Multibeam; otherwise identical to threshold	Best available systems.
	1 deg x 2 deg Deep Water Multibeam	1 deg x 1 deg Deep Water Multibeam	Full ocean depth mapping to one degree resolution
	Multifrequency Deep Water Echosounder	Multifrequency Deep Water Echosounder	12 khz echosounder
	Sub-Bottom Profiler	Sub-Bottom Profiler	Subbottom 2 - 8 khz
	Shallow/Midwater Multibeam	Shallow/Midwater Multibeam	Mapping down to 50 m depth
	ADCP	ADCP	ADCP
	Acoustic navigation and tracking system	Acoustic navigation and tracking system	Acoustic navigation and tracking system
	Underwater communication system	Underwater communication system	Underwater communication system
Radiated Noise Performance	Vessel self-noise shall not interfere with shipboard acoustic systems	Threshold plus compliance with ICES radiated noise up to 8 kts	Reduced radiated and sonar self noise desired
AUV/UAV capability	existing van sites can accommodate AUV/UAV container	space for AUV/UAV container is supplied in addition to other van sites	General statement on ability to handle AUVs. No mention of UAVs.



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DESIGN AND CONSTRUCTION STANDARDS			
Maintainability	The ship shall be supported through commercial resources with the ship's crew capable of performing routine preventative and corrective maintenance procedures	Same as Threshold	Statements to ensure that the design and construction of these vessels take into account the ability to maintain and operate within domestic and international regulations in a reliable and cost effective manner.
Operability	The ship will operate independently without fleet support and is expected to average up to 300 days per year at sea	Same as Threshold	
Regulatory issues	Subchapter U, ABS, SOLAS, MARPOL, etc	Same as Threshold	
Service Life Margin	5% full-load displacement; 0.5 ft vertical CG	same	No detail in SMRs
Electrical Power	Power quality meets IEEE 45; growth margin: 10% generating capacity, 20% switchboard capacity	threshold plus clean and uninterruptible power for science	Each lab area is to have a separate electrical circuit on a clean bus with continuous delivery capability of at least 40-volt amperes per square foot of lab deck area (the amount of power needed will be verified at the time of design). Un-interruptible po
Operational Temps	air: 0 to 95 F water: 28 to 90 F	air: 0 to 95 F water: 28 to 95 F	No detail in SMRs