

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	Page 1 of 29
2. AMENDMENT/MODIFICATION NO. 0001	3. EFFECTIVE DATE 01/07/2002	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)		
6. ISSUED BY DOT/Maritime Administration, SAR Acquisition Office of Acquisition, MRG-7200,7737 Hampton Boulevard, Building 4D, Room 211 Norfolk, VA 23505		CODE 00092	7. ADMINISTERED BY (If other than Item 6) DOT/Maritime Administration, SAR Acquisition Office of Acquisition, MRG-7200,7737 Hampton Boulevard, Building 4D, Room 211 Norfolk, VA 23505		CODE 00092
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and Zip Code) No Contractor Information Available			(X)	9A. AMENDMENT OF SOLICITATION NO. DTMA2B02001	
			(X)	9B. DATED (SEE ITEM 11) 12/06/2001	
				10A. MODIFICATION OF CONTRACT/ORDER NO.	
				10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE			

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
<input type="checkbox"/>	
<input type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF AUTHORITY OF FAR 43.103(b).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

T.S. STATE OF MAINE DRYDOCKING

The purpose of this amendment is to address bidder questions and make required revisions to the solicitation.

Revisions are shown in bold.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Susan P. Barba	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. United States of America BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED
_____ (Signature of person authorized to sign)			

Line Item Summary	Document Number DTMA2B02001/0001	Title STATE OF MAINE FY02 DD	Page 2 of 29
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No Funding Information

Line Item Number	Description	Delivery Date (Start date to End date)	Quantity	Unit of Issue	Unit Price	Total Cost
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No Changed Line Item Fields

Previous Total:
Modification Total:
Grand Total:

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COMMERCIAL CLAUSES

1 52.212-2 EVALUATION--COMMERCIAL ITEMS (JAN 1999)

(a) The Government will award a contract resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the Government, price and other factors considered. The following factors shall be used to evaluate offers:

Total price for CLINS 0001 through 0039

Past Performance

Interport Differential - An interport differential shall be added to the offeror's total price to determine the bid most advantageous to the Government. The interport differential will be calculated at \$21.00 per nautical mile for the distance from Searsport, Maine to the port nearest the bidder's facility (identified in Clause 9, "Place of Performance-Sealed Bidding"). The nearest port shall be selected from the NOAA publication "Distances Between United States Ports (1993)" and distances will be calculated using the tables therein. Publication ordering information is available at <http://chartmaker.ncd.noaa.gov/nsd/ports.html>

b) Options. The Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. The Government may determine that an offer is unacceptable if the option prices are significantly unbalanced. Evaluation of options shall not obligate the Government to exercise the option(s).

(c) A written notice of award or acceptance of an offer, mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer, shall result in a binding contract without further action by either party. Before the offer's specified expiration time, the Government may accept an offer (or part of an offer), whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award.

(End of provision)

2 STATEMENT OF WORK

VESSEL PARTICULARS

VESSEL NAME: T.S. STATE OF MAINE
EX: USNS Tanner T-AGS 40

Official Number:	Un-Documented Public Vessel
I.D. No.:	CG 029703
Builder:	BethShip
Year Built:	1990
Where:	Sparrows Point, MD
Vessel Type:	Nautical School Ship
Call Sign:	NTNR
Gross Tons:	12,542
Length Overall:	499.83 ft
Length Between Perpendiculars:	76.00 ft
Beam (Molded):	72 ft

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Depth (Molded at Main Deck): 42 ft
Draft: (Max, Keel-S.L.L.): 0.46 ft
Diesel HP (Maximum): 8046
Diesel HP (Normal): 800
Electric HP: 2,000

SHIPS CREW:

Captain	Larry Wade	Chief Engineer	Roger Lowell
Chief Mate	Brendan McAvoy	1st Engineer	David Howard
2nd Mate	Bill Erlanson	2nd Engineer	Raymond Moody
Storekeeper	Joe Poltrack	Electrician	Waldo Harmon
AB	Mark Jani	Plumber	Wess Whitmore

REFERENCES

The following NAVSEA Shipbuilder's Drawings (Bethlehem Steel Corporation) and C.R. Cushing & Co. Conversion Drawings (Colona's Shipyard) are available on board at time of ships arrival at contractors facility for references and information:

- NAVSEA DRAWING 085-6630081 rev C Docking Plan
- NAVSEA DRAWING 100-6252124 Welding Sequence
- NAVSEA DRAWING 101-6251220 General Arrangement Second Deck
- NAVSEA DRAWING 101-6251221 General Arrangement 01 Level
- NAVSEA DRAWING 101-6251222 General Arrangement Inboard Profile
- NAVSEA DRAWING 111-6251233 rev F Shell Expansion
- NAVSEA DRAWING 555-6251453 Potable Water System Piping Diagram
- NAVSEA DRAWING 505-6251579 Sewage Plant Arrangement of Machinery
- NAVSEA DRAWING 510-6251661 Heating, Ventilation and Air Conditioning
- NAVSEA DRAWING 101-6251968 General Arrangement 12' - O" Flat
- NAVSEA DRAWING 101-6251969 General Arrangement Main Deck
- NAVSEA DRAWING 101-6251970 General Arrangement 02 Level
- NAVSEA DRAWING 101-6251971 General Arrangement 03 Level
- NAVSEA DRAWING 101-6251972 General Arrangement 04 Level
- NAVSEA DRAWING 101-6251973 rev A General Arrangement Outboard Profile
- NAVSEA DRAWING 101-6252074 rev C General Arrangement Tank Top
- NAVSEA DRAWING 161-6252590 rev C Rudder, Horn, Pintle and stock scantlings
- COLONNA'S DRAWING 09-96DD-M03 BLOCKING PLAN
- BMD Drawing 67-S121008-22-5 Rev. C Tilted "Rudder, Horn, Pintle, and Stock Scantlings
- BMD Drawing 67-S121007-00-5 Rev. C Tilted "Arrangement and Dets of Pintle."
- BMD Drawing 67-S121005-00-5 Rev. I Tilted "Rudder Horn/Stern Frame Weldments."

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C.R. Cushing & Co. 1993-S28-3-1	UWILD, Hull Markings Plan
C.R. Cushing & Co	Fire and Safety Plan
C.R. Cushing & Co 1993-S11-10	Structural Mods IWO Existing BTM Shell Penetrations
DWG 163-6251431 rev B,	Sea Chests
DWG 243-6337728 rev D,	Propulsion Shafting Arrangement In Ship
DWG 244-6251633 rev C,	Stern Tube Bearing and Seal Arrangement Details

PREAMBLE

ACCESS AND PARKING

Six parking spaces shall be provided within 100' of the vessel to be used at the discretion of the COTR.

BLANKS

The Contractor shall maintain a log sheet of all blanks used to isolate piping. The log shall be available in the ships Engineering Operating Station for inspection by the ships force or COTR at any time.

CERTIFICATES, SURVEYS, AND INSPECTIONS

All certificates for surveys and inspections required by ABS and USCG and performed by the Contractor are to be submitted to the COTR. Contractor shall coordinate with the COTR all surveys and inspections of work required by this Specification and notify ABS, USCG, and other authorities when and where their attendance is required. The scheduled time and meeting place for all attendees is to be posted in the COTR's office and notification of ABS and USCG made by telephone or fax in advance.

DIMENSIONS

Contractor is responsible for taking his own dimensions and measurements with respect to all work in this Specification. Dimensions and measurements in this Specification are given in good faith but are not guaranteed. These specifications and all modification work shall be described using the U.S. standard system of measurements, unless otherwise specifically stated.

HAZARDS

Contractor must include in its bid package a complete description of any and all hazards or problems in vessel's access to Contractor's facility (including but not limited to depth under the keel and clearance under bridges) as well as their proposed solution to avoid such hazards or problems.

INTERFERENCE

Pricing of each item in this specification shall include the cost to remove and replace any and all shipboard interference's required completing the work.

MATERIALS

Contractor shall furnish all material and parts required to perform the work in these Specifications except where such material and parts are specifically identified as Owner-furnished in the Specification Item where they are required. All material is to be new and of good marine quality of at least the same strength and size as original. These specifications and all modification work shall be described using the U.S. Standard system of measurements, unless otherwise specifically stated. When ship's spare parts are authorized to be used, the parts inventory aboard the vessel for that particular piece of equipment will be identified as a Reference in the Work Item.

Except as specified otherwise, all scrap material and/or salvage, if any, shall be removed from the vessel, become the property of the Contractor, dispose in accordance with all Federal, State and local regulations and requirements, and a Scrap Allowance shall be reflected in the respective contract line item.

PERSONNEL IDENTIFICATION

The Contractors security system will require that all personnel possess proper identification badges for access to the vessel.

POINTS OF CONTACT

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In order to maintain continuity of responsibility, changes in Points of Contact are not to be made after start of the availability without prior approval of the COTR.

SERVICES

All rigging and dismantling of staging, removal and replacement of interference's, cleaning in way of repairs, touching up of all disturbed areas, and general cleaning of the vessel prior to redelivery, is to be included in the tender under the appropriate item.

0001 GENERAL SERVICES

Services, etc., as listed below shall be supplied by the Contractor for the entire length of the dry-docking and repair period. The Contractor is to furnish all necessary labor, material, tools, equipment, staging, crane service, lighting and ventilation, transportation and any other supplies and equipment required to provide the vessel with various "general services" throughout the dry-docking and repair period as follows:

ADMINISTRATIVE MATERIAL, EQUIPMENT & SERVICES

Contractor shall furnish administrative material, equipment and services effective immediately from the start date of the availability as follows:

- 1.1 One (1) case of 24# bright white laser jet paper.
- 1.2 One (1) paper shredder, "Fellowes, model 38221."
- 1.3 One (1) MultiScan® SDM-M81 18.1-inch Multimedia LCD Monitor
- 1.4 One (1) HP 1200 laser jet printer

All items listed shall become the property of the Government.

BERTHING, TUGS, PILOTS, GANGWAY, AND HANDLING LINES

The Contractor shall furnish services of tugs and pilots to dock, undock, and shift vessel on arrival and departure and as may be required during repairs. Tugs, pilots and docking arrangements shall be to the satisfaction of the vessel's Master. Furnish labor to handle mooring lines, gangway, etc., to make vessel fast at pier, to shift in Contractor's facility, and to let go upon completion of repairs. Furnish gangway for uninterrupted access to the vessel.

NOTE: All mooring lines are to be supplied by Contractor in sufficient number and condition to ensure vessel is properly secured. Vessel's lines are to be properly stowed by Contractor in areas specified by COTR.

BILGE ALARM

Provide labor and material to install a high-water level bilge alarm in the aft section of the Engine Room bilge. Alarm is to be set to be activated when the water level reaches 2" in aft section of bilge. Alarm is to have an audible signal at guard station. A sign shall be fixed to the audible signal stating "HIGH BILGE ALARM - NOTIFY CHIEF ENGINEER AND PLANT SECURITY IMMEDIATELY".

MATERIAL HANDLING SERVICE

To provide the requirements of this specification, crane must be capable of landing a minimum of 10 ton weight on the vessel's upper most deck (04 level). The Contractor shall provide a price in this Item number for furnishing material handling service which will include a crane with operator and signal man or fork lift truck(s) with operator or a combination of both for a total of 50 non-consecutive hours during the performance period to load/unload/move items, not associated with a specific Item number, as directed by the COTR.

NOTE: Crane and other material handling service costs necessary for the contractor to accomplish various specifications shall be included in the respective Item price.

DECK AND BULKHEAD PROTECTION

Immediately upon arrival at Contractor's facility, Contractor is to provide and install fire retardant protective covering of vinyl coated nylon, plywood, hardboard or equal on all decks and bulkheads in all passageways, the Ship's Office, COTR Office, Steward's Dry Storage 1-57-1, Forward Mess 1-47-2, Miscellaneous Safety Storage 1-25-1, and 4/C Lounge 1-47-01. Protective coverings are to be maintained throughout repair period, swept down daily and completely removed from vessel on completion of repair period. Damage and soiling of floor tile, bulkhead and overhead surfaces shall be repaired and/or cleaned at Contractor's expense.

ELECTRICAL POWER/LIGHTING

Contractor to furnish labor and material to connect and supply 450 volt, 60 Hertz, 3 phase power in quantity sufficient to light the vessel and operate any equipment. Six hundred (600) amps shore power shall be available at all times. Connect and disconnect as required (includes all cables and fittings). Contractor shall be responsible for replacing all burned-out lamps or any other damage done due to under voltage or if the shore line voltage at any time exceeds 480 volts. Power is to be supplied to the ship on a full 24-hour per day basis.

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Contractor to expect the vessel to consume an average of two hundred and twenty five kilowatts per hour while in the contractors facility.

NOTE: The shore power panel is located on the main deck, port side, frame-166.

ELECTRIC MOTOR HEATING DEVICES

Provide labor, material, and separate shore power circuits to supply heaters for fifty (50) electric motors designated by the Chief Engineer. The ship's crew will ensure that permanently installed motor heaters are energized. Heaters to the motors are to be checked daily by the contractor, maintained for the entire availability and removed when directed by the COTR.

FIRE PROTECTION

Contractor is to furnish and maintain 24 hour per day fire watch. Fire watch is to be maintained during the entire availability. The Contractor must maintain full vessel coverage in the way of fire fighting protection. Contractor is to perform all connects and disconnects of the fire line from dock to vessel. All fire protection is to be in accordance with USCG and local regulations. The ship firemain system will be inoperable during some period of the availability in order to perform repairs. During any time that the Contractor is performing repairs to the ship firemain system the Contractor shall ensure that alternative fire protection is provided for the entire vessel.

POTABLE WATER

Supply vessel with two hundred and fifty (250) tons of potable fresh water as requested by the COTR.

Fresh water ballast to be priced separately under appropriate items.

GAS FREE CERTIFICATES

Contractor to Furnish Certified Marine Chemist's gas free certificates for all opened tanks, voids, cofferdams, holds, and machinery spaces before entry by personnel and/or hot work. Gas free certificates are also to be provided for all vent lines, heating coils, fuel oil, lube oil and cargo oil pipe lines before commencing any hot work or repairs. Contractor to provide daily inspections by the Certified Marine Chemist and additional inspections by a Competent Person as necessary to verify that safe conditions are being maintained or whenever circumstances warrant. Copies of all certificates with daily endorsements by the Marine Chemist / Competent Person are to be posted in the COTR's Office, At the location where men are working and at the gangway security watch station.

NOTE: Cost of Certified Marine Chemist shall be included in the respective specification item.

GUARD SERVICE

Provide services of a bonded, uniformed guard, Pinkerton or equal, to stand gangway/access watches on 24-hour/day, 7 day/week basis during the performance period. This guard must be from a reputable security service, not a Contractor's regular employee. The guard is to be provided a lighted and heated/cooled guard shack with a full unobstructed view of the gangway. He shall be provided with communication equipment (telephone or radio) to summon assistance or provide notification of problems or situations without leaving the gangway. The guard will control access to the vessel for Contractor and Subcontractor personnel and various visitors by means of written posted instructions drafted by the Contractor and approved by the COTR. The guard shall maintain daily sign-in and sign-out logs for all visitors, owner representatives, ship crew, and other MARAD Contractor employees. Contractor's employees boarding vessel outside of normal work hours shall also be logged. One (1) copy of the log shall be submitted to the COTR every Friday morning. Contractor shall maintain original log records for 90 days after completion of the repair period.

A listing of Contractor, Fire, Ambulance, and other Emergency phone numbers shall also be posted in the guard shack. All logs maintained by the guard shall be presented to the COTR for his review upon request and shall be provided to the COTR upon completion of the Industrial Period.

HAZARDOUS WASTE CONTROL

The Contractor is responsible for the removal and disposal of all hazardous waste at his expense in accordance with all applicable Federal, state, and local rules and regulations as required by this Item. MARAD reserves the right to audit Contractor and Subcontractors for compliance with Reference A. All reports related to this item shall be submitted to the attention of Mr. Willie Barnes, Environmental Specialist, Maritime Administration, South Atlantic Region, 7737 Hampton Blvd., Norfolk, VA 23505.

Within five working days after the end of the availability the Contractor shall submit documented evidence of compliance that shall include the following:

- A) Types and quantities of hazardous waste generated.
- B) Procedures followed for custody and disposal.
- C) Disposal sites.
- D) Name of Contractor's person responsible for hazardous waste.

OILY WATER AND SLUDGE DISPOSAL

The Contractor is responsible for daily pumping of bilges and disposal of liquids discharged during availability in compliance with EPA and other appropriate regulations. A bilge survey will be made jointly by the Contractor and COTR on arrival to determine bilge

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conditions. Contractor is to prepare and submit a written report of conditions found within 24 hours to the COTR for signature. For estimating purposes, provide for disposal of 1,000 gallons of oily bilge water generated by the ship. Oily bilge water generated by the Contractor during the availability shall be disposed of at Contractor's expense. Bilges will be left free of all oil, grease, debris, and in a clean, dry condition at departure from Contractor's facility. Furnish necessary labor and material to bring aboard hoses and connect same to main deck connections to take delivery of oily bilge water. Hazardous materials are to be handled in accordance with approved procedures, local regulations and the provisions of "**Other Hazardous materials and hazardous, regulated and special wastes.**"

OWNER'S MATERIAL

Furnish labor and equipment to receive, store, issue and transport Owner's material as directed by the COTR. Pay and collect appropriate freight charges, customs brokerage fees, etc., due on shipments. Freight and customs fees will be reimbursed by Owner via task order upon presentation of appropriate documentation. Contractor is to receive and store material removed from vessel, package and ship as directed by COTR.

REFRIGERATION AND A/C SYSTEM CIRCULATING WATER

Furnish labor and material to install and maintain cooling water to the vessel's domestic refrigeration and air conditioning systems during entire availability.

RUBBISH AND DEBRIS REMOVAL

Furnish labor to remove ship's rubbish and production debris from the vessel on a daily basis. All areas where work is being performed or other spaces affected by Contractors production work are to be cleaned and all accumulated debris removed daily. At no time shall rubbish and debris be allowed to become a safety or fire hazard.

TELEPHONE AND FAX SERVICE

Contractor to provide and maintain unlimited local and long distance calls. Telephone service to and from ship during vessel's performance for exclusive use by Owners, Owner Representatives and designated ship's crew. Post list of emergency numbers at each telephone location. Connect, and disconnect as required. Additional telephones for contractor and subcontractor use to be provided separately at the contractor's expense.

Provide and maintain unlimited local and long distance telephone service for one (1) independent telephone line in the COTR Office aboard vessel. Contractor is responsible for all charges for this service (Telephone billing to be paid directly by Contractor). Post list of emergency and shipyard numbers at each telephone location. Provide a copy of local yellow and white pages at each telephone location.

Provide and maintain unlimited local and long distance telephone service for one (1) independent telephone line for the Chief Engineer office aboard vessel. Contractor is responsible for all charges for this service (telephone billing to be paid directly by Contractor).

Provide and maintain unlimited local and long distance telephone service for one (1) independent telephones onboard the vessel. One telephone line shall be installed in the Captains Office. Contractor is responsible for all charges for this service (Telephone billing to be paid directly by Contractor). Post list of emergency and shipyard numbers at each telephone location. Provide a copy of local yellow and white pages at each telephone location.

Total number of independent lines for this specification item is three (3).

NOTE: Contractor is to expect long distance overseas calls and faxes to be made on these telephone lines. Vessel has many parts and equipment that are procured overseas.

Supply COTR with six (6), 2-way radios set up with Ship's Superintendents'/Supervisors' frequencies for use during the availability. Each radio to be supplied with two rechargeable battery packs and a charger.

SEWERAGE SERVICE and PORTABLE TOILETS

Provide and maintain portable toilet services for yard employees for use during the performance period. Provide and maintain sewage service and disposal. Vessel's sewage system shall be used only by Owners, Owners representatives, and crew members. Contractor shall provide all connects and disconnects (including hoses and fittings) necessary for continuous and uninterrupted service to the vessel via the vessel sewage shore/overboard connection.

Contractor is to provide hoses, connections and disposal service to receive approx. 250 tons of sewage. When pumping is completed, disconnect hoses and remove same from vessel.

Any decrease/increase in work shall be credited/debited at the Contractor bid unit price.

COMPRESSED AIR

Upon vessel's arrival, Contractor shall furnish adequate quantities of dry, filtered, compressed air (minimum 300 cfm at all times) at 100 psi minimum. Before the vessel's departure, the yard will disconnect compressed air. Connect, and disconnect as required.

Compressed air is to be supplied to the ship on a 24-hour per day basis during availability.

The Contractor is not authorized to use shipboard compressors.

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STAGING

Contractor shall furnish necessary staging to accomplish all work in this specification. The cost of staging required for each specification item shall be included in the applicable Item number and not under the cost of General Services.

SWITCHBOARDS - MAIN AND EMERGENCY

The main and emergency switchboards shall be maintained ground free throughout the performance period. Upon vessel's arrival and prior to applying power to any circuits, verify the circuit is ground free. Change out non-working indicating lights for ground circuits as required. Vessel is to be ground free upon departure from facility.

STEAM

Contractor shall provide 125 psig steam for the duration of the contract. Contractor shall provide steam hose and condensate return line. Contractor shall provide labor for performing all connects and disconnects of steam and condensate return line during the period of performance which include any scheduled or non-scheduled shifts within the contractor's facility.

0002 VESSEL DOCKING

The Contractor is to provide all labor, material, equipment, staging, lighting and expertise to properly dock and undock the vessel in a safe and secure manner. Contractor to provide all tugs and berthing services which are to include line handlers, fenders, push boats, gangway and mooring lines necessary to dock and undock the vessel.

Blocks shall have soft wooden caps and allow at least five feet of clearance between the dock floor and the flat bottom of the vessel. Drydocking of the vessel shall be provided to accomplish the following work: blast and coat the underwater body, topside/freeboard/hull, and vessel markings. In addition, facilitate examination, taking of clearances, repair, test and alter the following as required: hull gauging, propeller, line shafting, bearings, seals, hull anodes, butts, seams, rudder, sea valves, sea chests, spool pieces, cathodic protection system, transducers, docking plugs, flat plate, shaped plate, arc gouging and welding, docking plan and all other requirements for using the drydock which may have not been mentioned.

The vessel is to be placed on blocks in accordance with the Docking Plan and taken off of the drydock upon completion of all items requiring the use of the drydock in this specification. If there is an overhang of the hull, the Contractor will supply a suitable working platform to make the entire underwater hull accessible for the aforementioned. Contractor is responsible for providing and disposing of all ballast liquids to dock and undock the vessel. All fuel oils (IFO-180 and MDO) will need to be removed to perform specification items in this contract. The Contractor is responsible for coordinating the removal of the fuel during the performance of this contract specifically as it relates to the dry-docking of the vessel. It is advised that the Contractor complete all mechanical work related to the sea valve and spool piece examination, and echo sounders before **floating** to facilitate additional repairs or correction of deficiencies if necessary.

Contractor shall provide a completed MARAD form "MA-57" to the COTR within five working days upon completion of all dry-docking related work. Contractor shall designate on MA-57 original docking position as "Position One". Attach copies of all delivery orders and condition reports associated with the performance of the dry-docking and underwater hull work to the MA-57.

0003 DOPPLER SPEED LOG REPLACEMENT

Contractor to procure and install the following navigation equipment and systems:

Litton Marine Systems, Model SRD 500 Dual-Axis Doppler Speed Log One (1) each, plus two (2) remotes (one wheelhouse and one chart room), SRD gate valve one (1) each.

Contractor is responsible for providing all labor, material, and equipment necessary to remove the existing displays, transducers, and cable for the existing electromagnetic speedlog. Contractor is to crop out the existing hull penetration for the electromagnetic speedlog and the associated sea valve. Contractor shall provide a new SRD 500 Dual-Axis Doppler Speed Log and SDR 500 Gate valve and install in accordance with the manufacturer specifications.

Contractor shall remove all original existing cabling and install new cable using existing cableways and penetrations in accordance with manufacturer technical specifications. Contractor is responsible for installing new cableways and penetrations where necessary in order to complete the installation of the new material and equipment.

Upon completion of installing the new navigation equipment the contractor is to prove the water tight integrity of hull penetrations to the MARAD Surveyor, USCG Inspector, and ABS Surveyor. Contractor shall provide the services of the manufacturer field service representative to commission and operationally test the newly installed equipment and to prove that it meets the manufacturer design and performance specifications.

Contractor shall provide the COTR with three (3) original equipment manufacturer technical manuals for each newly installed components.

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Note: Contractor shall verify with the equipment manufacturers the exact locations of the new installations. The equipment can be adversely effected by water turbulence if not installed in the correct location.
Note: A visual image of the new SRD gate valve can be found at the following web site. [http://www.litton-marine.com/srd500/srd500_gvinstall.pdf]

0004 HULL INSPECTION

Immediately upon drydocking the vessel, the Contractor shall thoroughly clean and high-pressure water wash (minimum 10,000 psi) the entire underwater body, including all sea chests, to permit a complete and detailed inspection. The high-pressure water washing is to start immediately after the vessel is out of the water. Marine growth shall not be allowed to dry. Contractor shall be liable for additional expense incurred in way of coatings and preservation caused by allowing the marine growth to dry.
Provide a man-lift or staging, as necessary, to support the required survey that will be performed on the ship's hull.
The contractor shall provide a ship fitter to accompany the Owner's Representative, ABS Surveyor, and USCG Inspector during the dry dock hull survey. As part of the underwater hull survey for ABS and USCG, the Contractor shall record any defects found during the inspection of plating, weld seams, sea chests, rudder, and bilge keels. Any deficiencies found shall be documented onsite on a working copy of the docking plan. A written condition report and the original marked-up working copy of the docking plan shall be submitted to the COTR within four hours after the completion of the joint survey.

0005 AUDIO HULL GAUGINGS - ABS SSH NO. 3

The Contractor shall furnish the necessary labor, material, equipment required, and ABS Certified hull gauge representative to perform audio hull gauging as required by the ABS Surveyor, in accordance with the rules for "Thickness Gauging for Dry Cargo Vessels- Special Survey No. 3".
Requirements for special survey number three as per "7-2-3 section 9.2.1" is two girth belts (internal and external), and the forepeak internal and aft peak internal.
Provide a man-lift or staging, as necessary, to support the required audio gauging that will be performed on the ship's hull.
Provide lighting, ventilation and "safe for men" accesses as necessary to support the required audio gauging that will be performed in ballast tanks or void spaces.
Provide the necessary grinding equipment and electrical power and other equipment as may be required to assist the hull gauge representative in performing audio gauging.

0006 SEA VALVE AND SPOOL PIECE EXAMINATION, REPLACEMENT AND REPAIR

Upon arrival of the vessel, Owner furnished valves (new) shall be offloaded to the contractors approved valve shop. Bench testing of the new sea valves in accordance with regulatory body inspection procedures can commence. All valves shall be bench tested, hand tight, witnessed by the ships designated representative, turned over and again bench tested with pressure from the opposite side in the case of gate valves and from the pressure side in the case of globe valves. Stop checks must be proven to be tight in both directions with hand wheel and with check disk. Plug valves need to be proven tight by moving plug in stream from open to close and back to open. At close there shall be no leakage. The intent is to have the new valves ready for installation as soon as possible.
Remove existing sea valves and spool pieces from ship and transport to shop. Ultra high-pressure water blast, open, clean, prepare, inspect, spot-in discs and/or gates and seats, remove packing, bench test, close, adjust and prove tight, the sea valves removed from the ship. All valve repairs are to comply with USCG and ABS requirements.
Stow in wooden crates the entire remaining contractor refurbished sea valves and return to the vessel store/parts room located on the main deck aft.
Each spool piece is to be ultra high-pressure water blasted, visually examined, audio-gauged and internally coated with two (2) coats of APEXIOR #3.
Install the new USCG/ABS approved and bench tested sea valves and refurbished spool pieces with new contractor furnished gaskets and fasteners. When installing the fasteners all bolt-holes are to be filled with silicone sealant.
A report of any deficiencies found is to be submitted in writing within 4 hours of discovery to the COTR.

Owner will furnish the following sea valves:

LIST OF SEA VALVES

NO.	SIZE	MATERIAL	DESCRIPTION	SERVICE	SIDE
1	6"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG OSY	Emergency Fire Pump Sea Chest Suction 9" FWD FR 66 - 7'4" A BL	P
2	1"	FORGED STEEL	GLOBE STOP CHECK	Emergency Fire Pump Steam Out -	P

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		MONEL TRIM	VALVE 800 SW	Sea Chest 6" AFT FR 65 -	
3	1-1/2"	FORGED STEEL MONEL TRIM	GLOBE STOP CHECK VALVE 800 SW	Emerg. Fire Pump Leakoff - Sea Chest FR 66	P
4	2"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Emergency Fire Pump Sea Chest Vent 6" AFT FR 65 - 9'4" ABL	P
5	2"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Fire & Ballast Pump Sea Chest Vent 6" FWD FR 155 - 9'6" ABL	S
6	1"	FORGED STEEL MONEL TRIM	GLOBE STOP CHECK VALVE 800 SW	Fire & Ballast Pump Sea Chest Steam Out 6" AFT BHD 154 - 9'6" ABL	S
7	8"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG OSY	Fire & Ballast Pump Sea Chest Suction 16" AFT FR 155 - 7'4" ABL	S
8	5"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Distiller Feed Pump Sea Chest Suction 6" FWD FR 124 - 7'10" ABL	P
9	2"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Distiller Feed Pump Sea Chest Vent 18" FWD FR 125 - 11'9" ABL	P
10	1"	FORGED STEEL MONEL TRIM	GLOBE STOP CHECK VALVE 800 SW	Distiller Feed Pump Sea Chest Steam Out 9" FWD FR 125 - 12'3" ABL	P
11	1-1/2"	CAST STEEL	PLUG VALVE WITH HANDLE 150 FLG POLYPROPYLENE LINED	Chloropac Discharge Main & Auxiliary Seawater System - Lower Sea Chest 16" FWD FR 116 - 10' 6" ABL	S
12	1-1/2"	CAST STEEL	PLUG VALVE WITH HANDLE 150 FLG POLYPROPYLENE LINED	Chloropac Discharge Main & Auxiliary Seawater System - Lower Sea Chest 16" FWD FR 116 - 18' 0" ABL	S
13	1"	FORGED STEEL MONEL TRIM	GLOBE STOP CHECK VALVE 800 SW	Main & Auxiliary Seawater Air & Steam Blowdown - Lower Sea Chest 15" AFT FR 115 - 10' 6" ABL	S
14	2"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Main Seawater System Upper Sea Chest Vent 6" AFT FR 114 - 18' 0" ABL	S
15	2"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Main Seawater System Lower Sea Chest Vent 6" AFT FR 114 - 10' 6" ABL	S
16	18"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG GEAR	Main & Auxiliary Seawater System Upper Sea Chest Suction FR 115 - 16' 0" ABL	S
17	18"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG GEAR	Main & Auxiliary Seawater System Lower Sea Chest Suction FR 115 - 7' 6" ABL	S
18	1"	FORGED STEEL MONEL TRIM	GLOBE STOP CHECK VALVE 800 SW	Mn /Aux SW - Upper Sea Chest Blow Down 6" FWD FR 116 - 17'0" ABL	S
19	18"	GALV DUCT IRON	GATE VALVE	Main & Auxiliary Seawater System	P

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		MONEL TRIM	150 FLG GEAR	Lower Sea Chest Suction FR 115 - 7' 6" ABL	
20	1-1/2"	CAST STEEL	PLUG VALVE WITH HANDLE 150 FLG POLYPROPYLENE LINED	Chloropac Discharge Main & Auxiliary Seawater System - Lower Sea Chest 16" FWD FR 115 - 10' 4" ABL	p
21	1"	FORGED STEEL MONEL TRIM	GLOBE STOP CHECK VALVE 800 SW	Main & Auxiliary Seawater Air & Steam Blowdown - Sea Chest 6" AFT FR 114 - 10' 6" ABL	P
22	2"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Main Seawater Sea Chest Vent 6" AFT FR 114 - 10' 6" ABL	P
23	8"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Air Conditioning Overboard Discharge 15" AFT FR 126 - 26' 0" ABL	S
24	12"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Main Seawater System Overboard Discharge 15" AFT FR 117 - 24' 8" ABL	P
25	1-1/2"	CAST STEEL	PLUG VALVE WITH HANDLE 150 FLG POLYPROPYLENE LINED	Chloropac Discharge Main & Auxiliary Seawater System Sea Chest 15" FWD FR 115 - 10' 6" ABL	P
26	5"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Fire & Ballast Pump Overboard Discharge 9" AFT FR 161 - 15' 0" ABL	P
27	6"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG	Bilge & Ballast Pump Overboard Discharge 15" AFT FR 116 - 15' 0" ABL	S
28	4"	GALV CAST STEEL BRONZE TRIM	GATE VALVE 150 FLG OSY	Sewage Treatment Pump Overboard Discharge 11" FWD FR 138 - 30' 3" ABL	S
29A	4"	GALV CAST STEEL BRONZE TRIM	HORIZONTAL SWING CHECK VALVE 150 FLG	MSD Tank Vent & Overflow Overboard Discharge 8" AFT FR 136 - 35'3" ABL	P
29B	4"	GALV CAST STEEL BRONZE TRIM	HORIZONTAL SWING CHECK VALVE 150 FLG	MSD Tank Vent & Overflow Overboard Discharge 8" AFT FR 136 - 35'3" ABL	P
30	4"	GALV CAST STEEL BRONZE TRIM	HORIZONTAL SWING CHECK VALVE 150 FLG	Aft House Grey Water Drains Overboard Discharge 8" AFT FR 136 - 35'3" ABL	P
31	1"	FORGED STEEL MONEL TRIM	GLOBE STOP CHECK VALVE 800 SW	Boiler Blow-Down Overboard Discharge	S
33	1-1/2"	CAST STEEL	PLUG VALVE WITH HANDLE 150 FLG POLYPROPYLENE LINED	Chloropac Discharge Main & Auxiliary Seawater System - Upper Sea Chest 16" FWD FR 116 - 18' 0" ABL	S
34	4"	GALV DUCT IRON MONEL TRIM	GATE VALVE 150 FLG OSY	Distiller Overboard Discharge & Ship Stores Refrigeration Combined Overboard Discharge 9" AFT FR 125 - 23' 6" ABL	P

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35	4"	BRONZE BRONZE TRIM	SCUPPER VALVE 150 FLG WITH HANDWHEEL	Grey Water Overboard Discharge Plumbing Drains 9" AFT FR 116 - 36' 0" ABL	S
36A	4"	BRONZE BRONZE TRIM	PLUG VALVE 3WAY 2-PORT 150 FLG	Grey Water Overboard Discharge Plumbing Drains 9" AFT FR 116 - 36' 0" ABL	S
36B	4"	BRONZE BRONZE TRIM	SCUPPER VALVE 150 FLG WITH HANDWHEEL	Grey Water Overboard Discharge Plumbing Drains 9" AFT FR 116 - 36' 0" ABL	S
37	4"	BRONZE BRONZE TRIM	PLUG VALVE 3WAY 2-PORT 150 FLG	Grey Water Overboard Discharge Plumbing Drains 9" AFT FR 116 - 36' 0" ABL	S
38	3"	FORGED STEEL MONEL TRIM	GLOBE STOP CHECK VALVE 150 FLG	Exterior Deck Drain 12" FWD FR 121 - 36' 0" ABL	P

Note: The doppler speed log sea valve will be replaced as part of the Doppler Speed Log And Marine Echo Sounder Installation.

0007 EMERGENCY BILGE SUCTION VALVE

Remove existing 12" angle globe stop-check emergency bilge suction valve from the ship and transport to shop. Ultra high-pressure water blast, open, clean, prepare, inspect, spot-in discs and seats, remove packing, bench test, close, adjust and prove tight. All valve repairs are to comply with USCG and ABS requirements.

Install the emergency bilge suction valve with new contractor furnished gaskets and fasteners. When installing the fasteners all bolt-holes are to be filled with silicone sealant.

0008 SEA CHEST EXAMINATION AND REPAIR

Unbolt and remove the strainer plates and safety bars on the sea chests, port and starboard sides. Plug the sea suction lines to prevent the entrance of grit or other contaminants.

For the purpose of inspection, blast and clean the strainer plates, sea chest, and sea suction/discharge lines to the sea valve flange. Provide staging and lighting for inspection of the sea chests by ABS, USCG and the COTR.

Clad weld four (4), one square foot areas in each sea chest.

Blast to SSPC-SP10 the strainer plates, sea chest, and sea suction/discharge lines to the sea valve flange and paint with anti-corrosive underwater hull coating system. Install anodes. Complete the remaining painting of the full underwater hull coating system.

Remove plugs from sea suction lines before reinstalling the strainers and safety bars. Reinstall strainers and safety bars. Renew any missing or damaged fasteners. Use only corrosion resistant materials.

Reference: Fasteners currently being used to secure the strainer plates on the sea chests are detailed on sheet 3 of 3 of drawing 163-625431 rev B, Title, SEA CHESTS.

0009 ANODES

The sea chests are to be opened in preparation for the underwater blasting and coating work. Old anodes shall be removed so that the entire sea-chest area can be properly blasted and coated with the full anticorrosive system. New zinc anodes are to be installed by welding after the high pressure water wash, solvent cleaning and anticorrosive is installed, but before applying the anti-foul systems. Paint damage occurring during this welding is to be repaired. The new anodes are to be protected by tape while the anti-foul coats are applied.

Provide a condition report on the existing sacrificial anodes. Remove all sacrificial anodes on the vessel hull in preparation for the blasting and coating work. New zinc anodes are to be installed by welding after the anticorrosive is installed, but before applying the anti-foul systems. Paint damage occurring during welding is to be repaired. The new anodes are to be protected by tape while the anti-foul coats are applied.

For bidding purposes estimate on providing and installing thirty (30) Type ZHS-23 (Style B) rectangular sacrificial zinc anodes, 6" X 6" X 1 1/4".

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Reference: Docking Plan Drawing 085-6630081

0010 POLISHING AND DYE CHECKING PROPELLER

The Owner's Representative will provide the services of an authorized propeller specialist from LIPS Propellers Inc., Mr. John M. Kennedy ((757) 485-5275) to aid in the inspection of the propeller. The Contractor shall allow the owner furnished propeller representative(s) free access to the facility to perform all and any inspections to the propeller. The Owner's Representative and propeller specialist shall visually inspect the propeller blades and hub assembly to determine any indication of extensive damage before the Contractor cleans or polishes the propeller. After the preliminary inspection is complete the contractor may commence cleaning the entire propeller, including hub, fillets, and blades - of surface fouling. Contractor is to use caution to minimize loss in material thickness of all components of the controllable pitch propeller. Polish each of the four (4) controllable pitch propeller blades and dye penetrate check each blade root. Perform a dye penetrate inspection on at least a six inch band of the leading and trailing edges, point four radius and fillet areas on both pressure and suction faces of each blade. Submit a written report that clearly identifies the location and size of all indications. Contractor is to include a record of the hub and blade stamping(s) in the report given to the COTR.

After completion of all propeller repairs, if any, polish the propeller, using "Scotch Brite" 3-M surface conditioning discs, or equal. Polish the pressure and suction surfaces of the blade tip between 0.7 and 1.0 radius to an equivalent of Rubert "B" (approx. 26 micro inch Ra.). Polish the leading edge (approx. 20% of the blade width, on the pressure and suction faces) of the blade and the remainder of the propeller to an equivalent of Rubert "B". Either a tactile comparison gauge (Rubert) or an electronic profilometer (micro inch) must be used to determine surface roughness.

Prepare and submit a Propeller Inspection Surface Roughness Report stating final blade surface finish for all the blades, both suction and pressure faces. At least ten readings are to be taken for each blade surface. The readings should be taken as follows: three at each radius of 0.3, 0.7 and 0.9, and one at the tip.

After polishing, completely cover the propeller blades and hub assembly. The Contractor is responsible for maintaining the Rubert "B" finish until the completion of the shipyard availability. The cost should include the services of an underwater propeller cleaning contractor, if required, to preserve the propeller finish.

Inspection and witnessing of tests to be conducted in the presence of ABS, USCG and COTR.

Maker	LIPS
Diameter	5000 mm (16.4 feet)
Hub Type/Diameter	D/1190D mm (48.85 inches)
Number of Blades	Four (4)
Type of Blades	High Skew
Material of Blades	Nickel Aluminum Bronze
Material of Hub	Nickel Aluminum Bronze
Blade Surface Finish	Class 1
Hub & Blades, Mass	14163 kg (31,229 lbs.)
Hub & Tailshaft, Mass	34583 kg (76082 lbs.)
Hub & Tailshaft, Length	14205 mm.
Direction of Rotation	Left Handed

0011 TAILSHAFT CLEARANCES

Provide labor, equipment and material to remove rope guard by grinding or chipping rather than burning, to avoid damaging stern tube bearing and seal. As soon as the vessel is dry, remove the top and bottom threaded plugs located in the after seal housing intermediate ring assembly for the wear down readings. Take "poker gauge" readings in the presence of the ABS, USCG and COTR using the gauge furnished by the vessel. These reading should be taken, if present, with the appropriate shaft marking in the 12:00 position. Furnish the readings and the wear down calculations to the Owner's Representative. The COTR shall furnish readings and wear down calculations to the regulatory bodies.

For the contractors information, the following were the last readings taken with the vessel out of water were in Colonna's Shipyard on February 25, 1997 were as follows:

- Upper reading - 2.998 inches
- Lower reading - 2.975 inches

The wrench size for access plugs is 1 5/16 inches.

Reference: Technical Manual Stern Tube, Bearings and Seals Assemblies

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Tech Library Cabinet 3B Manual-338.

0012 FORWARD AND AFT STERN TUBE SEAL INSPECTION AND REPLACEMENT

Erect necessary staging and remove oil drain and filling plugs for after seal. Contractor shall drain and dispose of oil properly in accordance with all Federal, State and local laws.

Provide labor and material to accomplish the following to the forward and aft stern tube seal assemblies without withdrawal of the tail shaft: Under supervision of owner-furnished technical representative, remove all the forward and aft split seal housing rings and transport to the machine shop for required modification. Contractor shall perform the modification "in-shop" that involves machining both sides of each split seal housing ring approximately one millimeter. In addition, the contractor shall perform the modification "in-place" that involves machining the forward and aft seal housing flanged rings approximately one millimeter. Contractor to install Owner-furnished seals, contractor furnished gaskets and reassemble forward and aft seals complete under the supervision of the John Crane Lips Technical Representative.

Renew zinc anodes with new Contractor furnished anodes.

Flush the stern tube lubricating oil system with dry-cleaning solvent P-D-680 Type II before refilling with new contractor furnished lubricating oil (approximately Three hundred gallons, Texaco HDZ 68).

Re-plug, replenish with new Contractor furnished oil (approximately seventy five gallons, Texaco HDZ 68) and statically test the oil cavities for the after tailshaft seal.

Staging is to be left in place for at least four hours after filling, and seal housing is to be checked for leaks. Upon completion of tests remove all staging.

Reference:

Technical Manual Stern Tube, Bearings and Seals Assemblies Tech Library Cabinet 3B Manual-338.
Aft Seal John Crane Lips
 Seal Assembly - 670 MK II
 All materials specified/ordered are to be "JMT"

Forward Seal John Crane Lips
 Seal Assembly - 630 MK II
 All materials specified/ordered are to be "JMT"

0013 PROPELLER BLADE SEAL RENEWALS AND INSPECTION

The propeller hub oil will be drained from the hub plug. An oil sample shall be taken from what is initially removed. The remaining oil to be disposed of is approximately 900 litres (240 gallons).

In the case that the shaft need not be disturbed, the blades will be lifted, blade palm and hub pocket cleaned, and the blade reinstalled with new owner's furnished blade foot seal and bolt o-rings. Blade lifting gear available from the vessel. Tooling for the blade bolts to be provided by from the yard. Blade bolt head size 90.mm. The required blade bolt torque is 10300 Nm. (7598 Pound-feet). A higher value should be anticipated for loosening the bolts.

Fill system internally with the assistance of the vessel crew with owner furnished oil. Contractor to ensure the hub is vented so that no air remains in the hub or after side of cylinder (also plug available).

Bolts to be locked with owners supplied locking tabs (welded). Ground connection during welding to be connected to the respective blades.

Contractor to perform operational test of the controllable pitch propeller in the presence of the Lips Representative, Chief Engineer, COTR, ABS Surveyor, and USCG Inspector.

0014 RUDDER POST CARRIER BEARING INSPECTION

Contractor to rig and support rudder post internally and externally to enable the inspection of the Upper Carrier Bearing. Contractor to clean carrier bearing and surrounding area in order to verify the condition of the bearing. Upon completion of the inspection by the MARAD COTR, ABS, and USCG the carrier bearing shall be greased and reassembled.

0015 RUDDER STOCK AND RUDDER PINTLE CLEARANCES

Contractor to provide labor and material to erect staging to measure and record rudder stock bearing clearances. These readings are to be taken within two days after commencement of drydocking. A report of the inspection findings and clearances is to be prepared and delivered to the COTR. This report is to include any recommendations for repair.

Air test the rudder to 1.5 psig prior to taking rudder pintle clearance measurement.

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The top and bottom readings can be accessed by removing the access plates on the side of the rudder blade below and above the pintle respectfully. Measure and record upper and lower pintle clearances. Before installing the access plates, prepare the adjoining surfaces, chase the threads and pack the void with grease. Install the access cover with new gasket, new bolts, never seize the threads and cover bolt heads with Phillybond or equivalent.

Contractor to include the cost to gas free and clad weld ten (10), one square foot areas on the rudder.

Air test rudder to 1.5 psig upon completion of all repairs.

Measure and record clearances using long feeler gauges between the rudder stock and the lower sealing area of the rudder stock.

Clearance measurements are to be taken at 0, 90, 180, and 270 degrees with the rudder in each of (3) positions (amidships, hard left and hard right) for a total of (12) measurements. Care must be taken that the readings are not obtained in the space between the upper bearing segments. STOCK - Clearances taken with long feelers - unable to insert .003 inch at any point.

Upon completion of all inspections and repairs the all rudder internals are to be float coated and closed.

Reference: Rudder, Horn, Pintle and stock scantlings NAVSEA DWG No. 161-6252590 Rev C

0016 REMOVAL BOTTOM PLUGS

Remove all liquid from ballast, fuel oil, diesel oil and miscellaneous tanks as per related specification Item. Prior to removing any bottom plug verify the contents of the tank with the MARAD Surveyor and his designated representative (Chief Mate).

Bottom plugs and spigots shall be examined for proper fit and condition of the threads in the presence of the Owner's Representative, ABS, and USCG. Reinstall the bottom plugs. Test the bottom plug and spigot to ensure there is zero leakage. Cover the bottom plug and spigot with cement.

It is expected that six bottom plugs shall be removed, inspected, and reinstalled during this drydock availability.

Reference:

NAVSEA DRAWING 085-6630081 rev C Docking Plan

COLONNA'S DRAWING 09-96DD-M03, Blocking Plan

0017 PORT & STARBOARD ANCHORS AND CHAINS

Contractor to range anchor and chains on the drydock floor, grit blast to SSPC-SP6 "commercial standard," and gauged in the presence of the Owner's Representative and Regulatory Body Representatives.

Two (2) copies of the gaugings are to be presented to the Owner's Representative. Upon completion of all repairs (if any), anchors are to be coated in accordance with the topside coating schedule and chains are to receive two (2) full coats of black surface tolerant epoxy anti-corrosive to yield 5 mils each for a total of ten (10) mils DFT. Shots to be marked with stainless band-it and shot markings below:

PAINTING:

- One link on each side of the 15-fathom detachable link shall be painted white.
- Two links on each side of the 30-fathom detachable link shall be painted white.
- Three links on each side of the 45-fathom detachable link shall be painted white, and so on.
- In all cases the detachable link is itself to be painted red.

The exception to the aforementioned is that all of the links in the last 15-fathom shot inboard shall be painted red, and all of the links in the next adjoining 15 fathom shot shall be painted yellow.

MARKING

Upon inspection of the markings, the anchor chain is to be marked by turns of Band-it on the studs of certain links. The number of links counting away from the detachable link is used as a marker for that shot. Thus, the first link at each side of the 15-fathom detachable link has one turn around the stud, the second link at each side of the 30-fathom detachable link has two turns around the stud, and the third link at each side of the 45-fathom detachable link has three turns around the stud, and so on.

The entire interior of chain lockers and drain well sumps are to be cleaned to remove all rust, scale, mud, dirt, failed coating and debris. Contractor shall employ high pressure water jet blasting to clean the interior of the chain locker and drain well. A minimum pressure of 3,000 psi shall be used. All material to be removed ashore. The interior of the chain locker and drain well sump is to be washed down with clean fresh water and thoroughly dried. The entire locker will be inspected by the Owner's Representative before coating. The entire interior of the chain locker and drain well sump is to be coated with preservative compound equal to existing in accordance with the manufacturer's recommendations.

The eductor arrangement serving the chain locker and drain well sump is to be cleaned, repaired (Currently the eductor valves are mislabeled. Contractor shall relabel the valves as actually installed.)and proven in good order to the satisfaction of the regulatory bodies and Owner Representative. Contractor to renew the anchor chain weak links. Certification of weak links shall be provided to

the COTR for acceptance by USCG prior to installation. Contractor is "end-for-end" port and starboard anchor chain. Chains to be made up in good order, shipped and anchors housed. Access covers for chain locker and drain well sump to be closed up in good order on new gaskets and any defective or missing fasteners renewed. All fasteners to be liberally coated with anti-seize compound during assembly.

While anchors are ranged on drydock, contractor to furnish labor and equipment to mechanically scale port and starboard anchor hawse & spill pipes inside, where chain rides, and coat as per coating specifications.

While anchor chain is ranged on the dock, chain riding pawls, shall be inspected, cleaned, grease fitting removed, grease passages proven free, fittings reinstalled, rollers turned, new grease pumped in and made ready in all respects to receive chain at end of servicing.

Prove drains and educator systems operational, to the ABS, USCG and COTR prior to final closing of the anchor chain lockers.

**COATING SYSTEM APPLIED AT DRYDOCKING 1997
ANCHORS, ANCHOR CHAINS AND CHAIN LOCKER**

SYSTEM	PRODUCT	CATALOG NUMBER	PERCENT SOLIDS	DRY FILM THICKNESS
Anchors and Chains	Amercoat 235 Black	235-K-9903	68	8.0
Shot Markings	Amercoat 229C White	229-K-3501	-	-
	Amercoat 229C Signal Red	229-K-7522	-	-
	Amercoat 229C Signal Yellow	229-K-8557	-	-
Chain Locker	Prime 167	167-K-0000	-	-
	Amercoat 235 Black	771-S-9903	-	-

CHAINS:

Quantity: 2

Size: 2 1/2" Stud Link, U-30

Length: 10 shots each

0018 BOTTOM and RUDDER SPOT BLASTING and PAINTING

A conference shall be held to include the COTR, Shipyard Superintendent, and Paint Manufacturer's Technical representatives to discuss hull preparation and paint application before any coating and preservation work starts. All questions concerning this item should be aired and cleared at this time.

Contractor is to provide the services of Paint Manufacturer's Technical Service Representative to supervise and inspect all work performed under this item. This representative shall report daily to COTR.

Anti-fouling coatings shall be an Ameron Marine Coatings, tributyl tin free, EPA approved, self-polishing anti-fouling system or an approved, compatible equal. Other anti-fouling coatings may be substituted only with written approval of COTR. Only coatings approved by Reference Coating guidelines or MARAD communication shall be considered for application. Paint is to be applied under supervision of and as directed by paint manufacturer's representative. Paint manufacturer's written guarantee will be provided to the COTR explicitly stating that, (a) coatings have been applied in accordance with Paint Manufacturer's specifications, and, (b) paint complies with Manufacturer's standard Navy warranty for performance with respect to fouling.

Contractor shall install portable scuppers and chutes on all active discharges to maintain a dry and clean surface for blasting and painting. Remove portable scuppers and chutes when finished. Sequence of colors is to be alternated so that final coat from the keel to the Deep Load Line shall be black. Consecutive coats shall have contrasting colors. All underwater hull markings i.e.: draft marks, plimsol marks, and frame identifiers are to be painted white. Total underwater area, including rudder, to be prepared and coated is approximately 43,000 square feet.

Minimum dry time before undocking is 12 hours at 73°F. Care shall be taken to "cut in" new bottom paint to side shell paint and color change at Deep Load Line. Care shall be taken to protect rudder and bushing from abrasive grit. Propeller and shaft seal are to be fully covered during hull preparation and painting.

The following information is provided to the Contractor as reference to the coating and preservation work that was performed during the last full credit drydocking.

**COATING SYSTEM APPLIED AT DRYDOCKING 1997
UNDERWATER HULL**

(43,000 SQUARE FEET)

PRODUCT	CATALOG NUMBER	PERCENT SOLIDS	DRY FILM THICKNESS	PRACTICAL COVERAGE Sq. Ft/Gal At listed M/D/FT 35% loss
Amercoat 235 Buff	235-K-1642	68	5.0	141
Amercoat 235 Oxide Red	235-K-7821	68	5.0	141
Amercoat 235 Black	235-K-9903	68	5.0	141
Amercoat 214 A/F Red	214-S-7061	52	3.0	180
ABC #3 Red	283-S-5415	52	5.0	106
ABC #3 Black	283-S-5415	52	5.0	106

FREEBOARD AREA - WATERLINE TO RAIL
(24,000 SQUARE FEET)

PRODUCT	CATALOG NUMBER	PERCENT SOLIDS	DRY FILM THICKNESS	PRACTICAL COVERAGE Sq. Ft/Gal At listed M/D/FT 35% loss
CATHA-COAT 302H Green	302-H-0250	78	3.0	271
Amercoat 235 Oxide Red	235-K-7821	68	5.0	141
Amercoat 235H aze Gray	235-K-2904	68	5.0	141
Amercoat 229C Navy Gray	229-K-2616	46	3.0	158

If the Contractor chooses to use Ultra High Pressure Water Jetting in lieu of grit blasting method then the Contractor shall adhere to the Joint Surface Preparation Standard, NACE No. 5/SSPC-SP-12, visual surface preparation condition WJ-2, nonvisual surface preparation condition SC-2.

Surface preparation and re-coating of each of these areas is to be as follows:

Immediately upon being dry-docked, High pressure (10,000 psi) fresh water wash the entire flat bottom and lower side shells, including rudders, sea chests, overboard discharges and suction lines, turn of the bilge, bilge keels, from the keel to the deep load line. SSPC SP-1 (Solvent Cleaning) any small areas of oil or grease where ever they exist. Hand scrape barnacles wherever they exist. The area of the underwater hull is approximately forty-three thousand (43,000) square feet.

All areas of coating failure, damage or corrosion to be spot blasted to SSPC-SP-10. To minimize damage to the surrounding new or existing paint, blasting must be done with a fine grade of grit and blast hoses fitted with grit control. This spot blasting work must be done carefully. The same underwater hull system is to be used for this repair work. Alternative colors should be used to build up the newly blasted areas. The painters doing this work must be careful not to get this AC coating on the AF any more than is absolutely necessary (about 6-8 inches beyond the blast area. These spot coats should be brush or roller applied to prevent over-spray problems and anti-fouling contamination. Care should be exercised to apply the proper film thickness. For estimating purposes, figure 10,000 sq. ft.

All spot blasted areas to be re-coated as follows:

PRODUCT	CATALOG NUMBER	PERCENT SOLIDS	DRY FILM THICKNESS	PRACTICAL COVERAGE Sq. Ft/Gal At listed M/D/FT 35% loss
Amercoat 235 Buff	235-K-1642	68	5.0	141
Amercoat 235 Oxide Red	235-K-9903	68	5.0	141
Amercoat 235 Black	235-K-7821	68	5.0	141
Amercoat 214 A/F Red	214-S-7061	52	3.0	180
ABC #3 Black	283-S-5415	52	5.0	106
ABC #3 Black	283-S-5416	52	5.0	106

Apply approved ablative anti-foul system, airless spray the second coat, (BLACK). In reference to the COATING GUIDELINES apply the approved controlled depletion ablative, non-TBT, copper based AF, at 5 mils DFT over the entire underwater hull. The area of the underwater hull is Approximately forty-three thousand (43,000) square feet.

ABC #3 Black	283-S-5415	52	5.0	106
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Apply approved ablative anti-foul system, airless spray the third coat, (RED). In reference to the COATING GUIDELINES apply the approved controlled depletion ablative, non-TBT, copper based AF, at 5 mils DFT over the entire underwater hull. The area of the underwater hull is approximately forty-three thousand (43,000) square feet.

ABC #3 Red 283-S-5416 52 5.0 106

Draft marks, tank numbers and tank boundaries, bulbous bow markings, UWILD markings, and other markings are to be solvent cleaned, fresh water washed and painted white below the anti foulant (water line). Coating used for underwater hull markings in 1997 was Bar-ox 450 White, 450-X-3501.

NOTE: All work performed under this item shall conform to provisions of Item 2.12, CONTROL OF HAZARDOUS WASTE, and any applicable Federal, state, or local laws or requirements. All work performed under this item shall conform to provisions of Item 1.11, Painting.

0019 FREEBOARD SPOT BLAST AND PAINT

Contractor shall solvent clean to "SSPC-SP-1" (any small areas of oil or grease if they exist.) Approximately 5,000 square feet. High pressure (3000 psi) fresh water wash the side shell areas which are intended to be spot blasted so as to avoid embedding any chlorides into the coating when blasting. Approximately 5,000 square feet. Spot blast (fine grit) to SSPC-SP-10 various locations of the freeboard from the Deep Load line to weather deck (including Bulwarks). All windows, port lights and ventilation intakes shall be protected from blasting grit. Approximately 5,000 square feet. Apply a Marad coating guidelines approved zinc rich epoxy primer anti-corrosive system by airless spray to the areas spot blasted. Airless spray apply 1 coat zinc rich epoxy primer at 3 - 4 mils DFT. minimum. Note after this coating has properly dried, the same primer material (slightly different in color) is to be brushed applied to all edges, corners, ladder rungs, brackets, knife edges, rat holes, rough welds etc. Also any areas of low primer millage are to be brought up to the 3-4 mils minimum DFT specification. Approximately 5,000 square feet. Apply a stripe coat of high solids epoxy to all edges, corners, ladder rungs, brackets, knife-edges, rough welds rat holes, etc. to the areas spot blasted. This stripe coat must be carefully applied by brush to at least 3 mils DFT and must be free of pin holes. The stripe coat should have a different color then the primer or the first full coat of epoxy. Apply a coating guidelines approved coat of Ameron (or equal) high solids epoxy Airless spray apply 1 coat high solids epoxy intermediate coat at 5 mils DFT minimum to the areas spot blasted. Apply a water based cleaner (Prep 88) to all exterior surfaces above the deep load line, approximately 24,000 square feet. High-pressure (3000 psi) fresh water wash the side shell area. Contractor must ensure to remove all residual traces of the PREP 88 cleaner, approximately 24,000 square feet. A complete Ameron (or equal) two component PSX 700 Engineered Polysiloxane coating system will be applied. One full coat of Amerlock #2 High Solids Epoxy Barrier at 4 mils DFT minimum, approximately 24,000 square feet. One full coat PSX 700 Engineered Polysiloxane in Holland America Blue at 5 -7 mils DFT minimum, approximately 24,000 square feet. Draft marks, tank numbers and tank boundaries, propeller marking, home port, vessel names, UWILD markings and other markings are to be spot blast (fine grit) to SSPC-SP-10, apply by brush one (1) coat zinc rich epoxy primer at 3 - 4 mils DFT minimum, followed by a complete airless spray coating system equivalent to the surrounding area. Contractor to make final brush coat painted white. Coating used for hull markings in 1997 was Amercoat 229C. NOTE: All work performed under this item shall conform to provisions of Item 2.12, CONTROL OF HAZARDOUS WASTE, and any applicable Federal, state, or local laws or requirements.

0020 REPAIR BILGE KEELS

Contractor to crop and renew a ten-foot linear section of bilge keel on the port side. The newly installed steel shall be blasted to SSPC-SP10 and coated with a full underwater hull coating system. Contractor to crop and renew a ten-foot linear section of bilge keel on the starboard side. The newly installed steel shall be blasted to SSPC-SP10 and coated with a full underwater hull coating system. Contractor to provide sketch and welding procedures of work to be performed to the COTR for submittal to ABS and USCG. Air test bilge keels to 1.5 psig upon completion of all repairs. Upon completion of all inspections and repairs the bilge keels internals are to be float coated and closed. Bilge keels are protected with "Float Coat" internally. Contractor shall be responsible for cleaning for gas free, prior to repairs and for internal recoating at the completion of repairs.

0021 CATHODIC PROTECTION

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Contractor to provide the services of an Electrocatalytic Technical Representative to inspect and perform necessary repairs to the Cathodic Protection System.

Contractor shall provide a condition report to the COTR on the Cathodic Protection System within twenty-four hours of inspection.

As needed a technical representative shall supervise the removal and renewal of the "mastic" primary insulation shield. Contractor to provide labor and material under the direction of the technical representative to remove the existing mastic by blasting (SSPC-SP 10) and renew the mastic material to the shape and thickness recommended by the technical representative.

If it is determined that the mastic material is not in need of replacement or repair the Contractor shall provide a full credit for the work not performed.

Note: The cathodic protection shields are to be protected from any and all blasting and coating efforts being performed in surrounding areas during the drydock availability.

Reference: Cathodic Protection Instruction Manual, T9633-AE-MMC-010, TAGS 39/40

MFG: Electrocatalytic, 2 Milltown Court, Union, New Jersey 07083

0022 FUEL OIL TANKS INSPECTIONS

The intent is to arrive at the Contractors facility with the minimum amount of fuel onboard as permitted by law for ocean service. The Owner will advise Contractor of the amount of fuel onboard before the vessel's arrival.

There are approximately 29,000 gallons of non-operationally-burnable slops in fuel oil tank 5-47-1. During site visit the contractor will be allowed to take representative samples of these slops. Contractor shall remove and dispose of all slops in this tank.

Contractor to low-pressure (1000 P.S.I.) fresh water-wash all internals of each fuel tank and dispose of all liquids. Contractor to remove any sludge or debris from the tank. Completely dry each tank out with fresh air blowers for several days.

Contractor to have a Marine Chemist to certify fuel oil tank safe for men. Contractor is to maintain the Marine Chemist certification until all inspections and specification work is complete.

After cleaning is completed, present tanks to ABS, USCG and COTR for inspection. Upon completion of inspection, the Contractor will install all manhole covers with new gaskets and fasteners.

Upon completion of fuel tank inspection and fuel tank piping modification (specified elsewhere in this solicitation) the contractor shall provide assistance to owner furnished fuel oil delivery barge in and around contractor's waterfront facility. The contractor is to alter schedule and allow for any disruption to hot work or other shipyard operations during vessel bunkering operations. For estimating purposes, 1000 TONS of IFO-180 and 1000 TONS of MDO will be delivered to the vessel. The Contractor shall provide an oil boom large enough to surround the entire perimeter of the T.S. STATE OF MAINE and the fuel oil barges alongside the vessel.

LIST OF FUEL OIL TANKS

ITEM	CAPACITY (GALLONS)	ESTIMATED CAPACITY @ ARRIVAL
5-47-1	116,958	29,000

0023 FUEL OIL TANK CONVERSIONS

The intent is to convert existing heavy fuel oil tanks 5-47-1 and 5-47-2 to diesel oil tanks for added diesel oil capacity and more equal fuel load and operational range.

The existing heating coils steam supply and condensate return will be blanked upstream of the existing isolation valves located in the engine room.

Contractor shall have a Marine Chemist to certify area safe for men and safe for hot work.

The existing piping connections to the Heavy Oil transfer piping in the Auxiliary Machinery Room (AMR) will be modified to tie in to the existing Diesel Oil transfer piping. Valves removed that will not be reutilized shall be turned over to the Chief Engineer.

Contractor shall modify the DFM manifold to accept suction and discharge piping and isolation valves from the subject tanks.

Contractor shall remove the Four (4), 6-inch flanged, FO transfer pump suction and discharge gate valves located at the FO manifold. In place of the removals Four (4) new, 6-inch blank flanges, gasketed and bolted to the FO manifold.

Valve Identification:

5-47-1 tank suction to FO transfer pump

5-47-1 tank fill from FO transfer pump

5-47-2 tank suction to FO transfer pump

5-47-2 tank fill from FO transfer pump

Six (6) inch piping for tanks 5-47-1 & 5-47-2 shall be cut back and reduced down to 2 inch piping to facilitate reconnection to DFM manifold.

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DFM Fill/transfer manifold shall be extended to accept 4, 2 inch flanged, angled, stop check valves supplied by contractor and in accordance with the vessel's original piping and valve specifications.

Pipe up reduced 6 to 2 inch lines to the newly installed 2 inch stop check valves on the DFM manifold.

Contractor to install modify existing piping to provide a means for filling tanks 5-47-1 & 5-47-2 from the DFM Deck Fill line. This will be accomplished by branching off the existing DFM 4 inch fill line and piping into the existing 6 inch main lines for tanks 5-47-1 & 5-47-2, complete with (2) two new 4" fill valves and appropriate piping.

Contractor to provide new metal labels for manholes, valves, gauging systems, vents, at the completion of tank conversion.

All of the work in this item shall be completed to the satisfaction of the Owner's representative, ABS and USCG.

NOTES: All work to be conducted shall be completed to MMA's safety policies including but not limited to, Hot Work Permits, Gas Free Permits, etc... in accordance with CLIN 0001 - General Services.

REFERENCES

NAVSEA Dwg. 541-6251455 Fuel Oil and DFM piping (sheets 1,2,3)

0024 EXHAUST GAS LEAK AND DETECTION

Ship's crew has identified and marked leaks in the (5) exhaust trunks in the upper engine room. Contractor shall provide all materials and labor for additional leak detection and repairs to these 5 stacks. Contractor shall seal each exhaust stack and "smoke" them with a proper agent (dye) to determine any additional leaks. Contractor shall repair all previously marked leaks and all newly identified leaks as per ABS USCG approved methods and at completion of work again smoke test all stacks to insure there is no leakage, to the satisfaction of the MARAD representative or his designated representative.

0025 WATER WASH EG BOILER & ECONOMIZER

Contractor shall provide all labor and materials with proper protective measures to surrounding areas and equipment and proper disposal of all generated wastes, to wash the exhaust gas boiler and economizer. Appropriate neutralizing agent (10% soda ash) shall be added to the wash water to prevent acidic action on metal surfaces. All drains are to be proven clear before and after the washing. All areas impacted by the washing shall be thoroughly cleaned after the washing, lagging, gasketing, bolting doors and interferences are to be closed as per operating standards.

0026 #3 AC UNIT CONDENSOR AND CHILLER

Contractor shall rig and remove the condenser and chiller, previously disconnected by the ships crew, from the engine room to contractors facility ashore. Contractor shall properly preserve and crate both units and subsequently ship both units to the MARAD SAR warehouse in Chesapeake Va. Crates shall be suitably identified on the exterior as to contents, including part numbers, equipment numbers and notation that they are suitable for vessels "STATE OF MAINE" and "GOLDEN BEAR".

0027 HFO PURIFIER SUCTION FROM HFO DAY TANK

Contractor to provide the services of a marine chemist to certify piping, tanks, and engineering space is safe for men and safe for hot work in order to accomplish the following piping modification. Contractor to modify the existing drain line on the bottom of the HFO day tank to facilitate the installation of a new suction line teed into the #3 HFO Purifier. Installation of the new piping shall include the installation of the bulkhead penetration required to complete the piping modification. All piping materials are to be schedule 80. Contractor furnished isolation gate valves (4) shall be ANSI, 150 #, WOG, welded steel with bronze trim.

0028 ENGINE ROOM EXHAUST FAN (04-133-2) REBUILD

Contractor to remove, refurbish, reinstall, and operational test the engine room exhaust fan (04-133-2). Contractor to completely disassemble the fan and motor assembly. The motor rotor, housing and all other parts to be cleaned. Motor windings are to be dipped and baked and new bearings installed. Rotor shaft run-out to be witnessed by the vessel chief engineer. Motor shall be reassembled and painted.

Fan shall be cleaned, visually inspected and dye penetrant checked for cracks. Fan to be balanced for operation at a maximum motor speed. Fan/motor unit shall be reassembled and reinstalled by the contractor.

REFERENCES

Tech. manual for Buffalo Forge Vaneaxial Ventilation Fans. T/L CAB 1, Shelf B, Manual # 59.

Name Plate Data:

- a. Fan: Manuf. Buffalo Forge Co.

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Type & Size	XA30 A4W7
Rated CFM	32.210
H/P	25/10
Volts	440
RPM	1170
Sys. #	E-04-133-3
S.O.	86302471

b. Motor:

Manuf.	Reliance
Ident. #	34ZY994002A6 VM
Frame	326 TY
HP	25/10
RPM	1130/885
Volts	440
Drive End Bearing	55BC03X30X26
Opp. D.E. Bearing	55BC03X30X26

0029 STACK ACCESS PLATFORM

Contractor to install a work platform from which an operator may stand on in order to safely open the access hatch leading to the top of the stack. Presently there is one vertical ladder extending from the 05 level inside the stack and terminating at the stack access hatch. The intent is to install a work platform approx. 6 ½ feet below the stack access hatch to allow an operator to safely stand on while opening and securing the hatch. Contractor shall provide engineering, materials and labor to design and install the work platform. Existing vertical ladder shall be removed to reutilize at a shorter length on the new work platform.

Contractor designed, fabricated and installed work platform shall meet the following minimum requirements:

- It shall be located approx. 6 ½ feet below the opening of the stack access hatch.
- It shall have an operating area of approximately eight (8) square feet.
- The operating area shall be constructed of galvanized steel grating suitable for the support of personnel.
- A suitable handrail matching that of the rest of the engine room shall be installed 360 degrees around the platform with openings to accommodate vertical ladders to and from the platform.
- A spring-loaded safety bar shall be installed on the railing at the opening for the vertical ladder to the platform.
- Framing and support members of the platform shall be of suitable size and strength to support personnel and the weight of the platform. The original vertical ladder shall be shortened accordingly to be reused as the ladder to the platform. This ladder will be relocated/rotated 90 degrees inboard from its original position.
- A new vertical ladder shall be fabricated to extend from the work platform to the access of the stack hatch. This ladder will follow the same route as the original.
- Once completed, all surfaces shall be prepped, primed and painted.
- Handrails shall be gloss black.
- Both vertical ladders shall be gloss black.
- Bottom and top rungs to each ladder shall be safety yellow.
- Framing and support members shall be white.
- Grating shall be hot dip galvanized and left natural.

0030 RENEWAL OF SURVIVAL CRAFT(S) RIGGING

Contractor shall take delivery and install the owner furnished/manufacturer certified lifeboat falls. Upon completion of installation the contractor shall perform a weight test in accordance with ABS, USCG, and IMO regulations. All testing shall be witnessed by the COTR, Chief Mate, USCG Inspector, and ABS Surveyor.

0031 PORT AND STARBOARD STORES CRANE WEIGHT TEST

Contractor to perform a static and dynamic load test on each pedestal crane. Static load test is to be ten-tons retracted and five-tons extended plus 10%. Dynamic load test is to be 10 tons retracted and 5 tons extended, for maximum swing in each direction (rated SWL). The static and dynamic load testing will be witnessed by the ABS Surveyor for the purposes of the issuance of a "statement of fact" and not for classification society cargo handling equipment quadrennial survey.

0032 EMERGENCY FIRE PUMP

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Contractor to remove the emergency fire pump from space number 4-65-2 and disassemble pump from motor. Motor is to be sent to a certified electric motor repair shop for cleaning, dipping, baking, renewal of motor bearings, shaft run out check, reassembly and return to ship. Transport pump end to vessel machine shop. Vessel crew shall perform the open, inspection, and repairs of the pump for regulatory credit. Upon completion of repairs the Contractor shall reassemble motor and pump under direction of vessel's Chief Engineer and reinstall emergency fire pump and operationally test in the presence of the MARAD Surveyor, USCG Inspector, and ABS Surveyor.

0033 LOADLINE MARKINGS

Contractor to verify ABS Loadline measurements. Measure distance from each line of the plimsol marks (Port and Starboard) to the freeboard (deck line) and to the baseline of the keel. Document measurements on a condition report and submit to the MARAD Surveyor.

0034 LINE SHAFT BEARINGS

Contractor is to open, inspect, and record the condition of each of the three line shaft bearings located in shaft alley. All measurements are to be taken in the presence of the attending ABS Surveyor, Chief Engineer, MARAD Surveyor, and USCG Inspector. Document measurements and conditions on a condition report and submit to the MARAD Surveyor.

0035 THRUST BEARING INSPECTION

Contractor is to open, inspect, and record the condition of the main thrust bearing located in shaft alley. All measurements are to be taken in the presence of the attending ABS Surveyor, Chief Engineer, MARAD Surveyor, and USCG Inspector. Document measurements and conditions on a condition report and submit to the MARAD Surveyor. This thrust bearing is an oil type navy thrust bearing. Contractor is responsible for pumping out and disposing of old oil, cleaning sump, offering the open sump for inspection by the vessel's Chief Engineer or his designated representative, closing and refilling with new oil on completion of above repair/inspection.

0036 ECHO SOUNDER

Contractor is to provide the services of an authorized Ray Marine Field Service Representative to perform routine maintenance and calibration of the Raytheon Marine Echo Sounder, model JFE-770S, type RD-500, Serial Number HX51465. The transducer specifications are 24 kHz, 7426, Beam angle 17 Degrees @ -3 dB down, Stainless steel housing with 30 ft of cable.

In addition to the routine servicing the Ray Marine Field Representative shall open the high hat, ring out the wiring, test the transceiver functions and insure continued water-tightness of the transducer. The Ray Marine Field Representative shall also as part of this service replace the belt and stylus of the recorder unit and clean internals and exterior.

0037 SEA TRIAL

Following completion of all specification items but before completion of availability, a sixteen- hour sea trial full power run from sea buoy to sea buoy in a 24-hour sea trial is required. Contractor to furnish a Shipyard Guarantee Engineer. Contractor to provide any other Technical Representative that the Contractor deems necessary to calibrate or to inspect the components that they are responsible for working on. These personnel will provide technical supervision of testing and calibration of their respective equipment.

Contractor to provide tugboats, line handlers, launches and pilots as required to conduct sea trial. Contractor to provide removal of temporary services and gangways to vessel. Owner will supply complete sea trial crew sufficient to comply with vessel's operating requirement as outlined in Certificate of Inspection.

Contractor to provide the services of a certified compass adjuster to make necessary adjustments to the magnetic compass. Technical representative shall produce a new magnetic compass deviation table before his departure from the vessel. New magnetic deviation table shall be provided directly to the Master of the vessel and USCG.

The ship shall not be deemed redelivered under provisions of this Contract until satisfactory completion of sea trial.

NOTE: Contractor will bring back the Technical Representatives for the Sea Trial to ensure that all components are operational before redelivery to owners.

0038 SUPPLEMENTAL LABOR

The contractor shall provide up to 1,000 man hours of supplemental labor as ordered by the COTR.

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The Government reserves the right to order any quantity cited in individually priced supplemental work items COTR in accordance with the provision, SUPPLEMENTAL WORK REQUESTS. In the event that less than the total quantity of a supplemental work item is ordered, the Government will decrease the contract amount for the quantity not ordered at the awarded supplemental item unit price.

The supplemental labor rate offered below shall be a composite labor rate and including all management, supervision, overhead, G&A, material handling charges, freight, profit, contractor and subcontractor burden, overtime, quality assurance, delay and disruption, bonding, and insurance). The yardwide composite rate offered by the Contractor shall be binding during the entire period of this Contract for all supplemental work which cannot be accurately described at this time and is not included in other CLIN specifications. Work under this CLIN order up to 1200 manhours (i.e., 50% above the estimated 800 man hours noted below) will be performed by the Contractor at the Contract award yardwide composite rate for supplemental labor.

0039 SUPPLEMENTAL MATERIAL

The contractor shall provide a total of up to \$50,000 (inclusive of material handling charges) in materials when and if ordered by the COTR in accordance with the provision, SUPPLEMENTAL WORK REQUESTS. The contractor shall be compensated for material based on their cost. Any mark-up on material costs will include only material handling costs and any appropriate indirect costs specifically attributable to the material and clearly exclusive of any labor-hour rate. Neither profit nor non-auditable costs are allowed to be added to the cost of the material.

3 SOM-DD-QUESTIONS

T.S. STATE OF MAINE FY02 DD, DTMA2B02001/Amendment 0001

0002 VESSEL DOCKING

Q: What will the forward and aft vessel drafts at arrival?

A: Arrival will be approximately 28 feet deep draft. If absolutely necessary the vessel can be brought up to 27' even keel without disturbing the treated fresh water ballast. Anything more and the shipyard would have to be responsible for replacing the treated ballast. This is dependent on good weather.

Q: Please verify fuel oil (IFO-180 and MDO) removals as it applies to the dry-docking item?

A: CLIN 0022 Fuel oil tank inspections requires that 29,000 gallons of slop be removed from tank 5-47-1. Otherwise, there will be very little transfer of fuel within the vessel while on dock.

Q: Is vessel fleeting required as stated in item?

A: No

0003 DOPPLER SPEED LOG REPLACEMENT

Q: At what frame is existing speed log transducer and valve located?

A: Frame 45

Q: What is the estimated length of cable between transducer and wheel house power display?

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held on December 18, 2001.

Q: How many overhead and bulkhead panels will be involved for removal and replacement to access existing cable run.

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held on December 18, 2001.

0013 PROPELLER BLADE SEAL RENEWALS AND INSPECTION

Q: Will Lips representative be required for the duration of work item or for operational test only?

A: All work will be accomplished under the direct supervision of the Lips representative.

Q: Is Lips representative owner furnished?

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A: Yes

0016 REMOVAL BOTTOM PLUGS

Q: Which (6) bottom plugs are to be removed servicing what tanks?

A: Exactly which tank plugs will be removed is not known at this time.

Q: What will be the quantity and type of liquid for each of these (6) tanks upon dry-docking?

A: It is reasonable to expect that five will be ballast tanks and one will be the 5-47-2 fuel tank.

0020 REPAIR BILGE KEELS

Q: Is the area of bilge keel repair in way of a "safe for hot work" area?

A: Ballast tanks, void spaces, and engine room are spaces internal of the bile keels. The bilge keels do not have any direct boundary with fuel tanks.

Q: Will gas freeing of vessel internally be required?

A: Yes. Also be aware that the internals of the bilge keels are "float coated."

0023 FUEL OIL TANK CONVERSIONS

Q: Is or will tank 5-47-2 be in clean and gas free condition at arrival.

A: No

Q: Has or will there be A.B.S. approved drawings for these modifications be available and required? If so, are the owner or contractor furnished?

A: No

Q: What are the approximate sizes, quantities, etc. of piping materials required to complete this modification

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held on December 18, 2001.

Q: Does reference drawing 541-6251455 reflect these proposed modifications? Can it be provided to the contractors other than ship-check?

A: No

0024 EXHAUST GAS LEAK AND DETECTION

Q: What is the total quantity of know leaks and of what nature (gasket, weld, etc)?

A: There is one known gasket leak on the main engine exhaust and two known leaks on ship service diesel generator number 2 exhaust.

Q: What level of effort should be allowed for unidentified leaks (200 man-hours and \$1,000 in material)?

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held on December 18, 2001.

Q: Is any exhaust piping insulation to be removed and sub sequentially reinstalled or replaced?

A: Exhaust lagging will need to be removed and subsequently reinstalled.

0027 HFO PURIFIER SUCTION FROM HFO DAY TANK

Q: What are the approximate sizes and quantities of piping required?

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held on December 18, 2001.

Q: Will A.B.S./USCG approved drawings be provided or required?

A: As built drawings will be developed by the owner subsequent the full credit drydocking.

0032 EMERGENCY FIRE PUMP

Q: What are the motor characteristics, ie., (H.P., volt, amps, etc.)?

A: Reliance motor, 75 HP, 440 volts, 90 amps, 3 phase, 60 hertz, 3550 rpm.

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0035 THRUST BEARING INSPECTION

Q: What is the type and quantity of oil required?

A: Texaco Taro DP 40 (SAE 40 weight), 200 gallons.

0037 SEA TRIAL

Q: Will any tug/pilot be required in addition to getting the vessel to sea trials?

A: After sea trials are complete the vessel will return to the contractor facility only if there is original contract or guarantee work not completed.

Q: Will Gulf Coast yards be penalized due to extra sailing time from East Coast?

A: An interport differential will be added to offerors' total bid price to determine the bid most advantageous to the Government as detailed in this amendment by addition to Clause 52.212-2 "Evaluation-Commercial Items."

Q: Will a copy of the docking plan referenced in item 0002 page 52, and/or blocking plan be made available prior to bid submission?

A: All drawings made available at site visit on December 18, 2001.

Q: Is gross tonnage stated in IFB of 2,542 correct or a typo?

A: The gross tonnage is 12,542.

Q: Will a second site inspection be available after the holidays, but before bid is due to be able to arrange better cost effective travel?

A: No

Q: Whom is the contact Marad or MMA has made with Litton Marine Systems to discuss and agree upon the Model SRD 500, that we can establish continuity of discussions, pricing, etc.?

A: Information can be found on the Litton Marine Systems website.

Q: Will a copy of the following drawing be made available for study prior to bid review?

General arrangements

Sea Chests, sheets 1,2, &3 of drawing 163-625431 rev B mentioned but not included in the spec package.

Diagram of fuel oil tanks and locations- NavSea drawing 541-6251455, sh 1,2, &3.

Drawing of bilge keels to review details of material for item 20.

A: All drawings made available at site visit on December 18, 2001

Q: Will Marad supply the paint or contractor?

A: All paint and paint manufacturer representatives are contractor furnished.

Q: Item 0027 - last sentence, is it four(4) contractor valves to be furnished or one (1) 4 inch?

A: Quantity of four each.

Q: Would vessel be able to come to yard in February 2002?

A: Yes

Q: For clarification in item 30, "certified lifeboat falls" is meant to be replacement wire rope and not installation of davits?

A: Correct.

Q: What kind of weight test is required in item 30?

A: Test to be performed in accordance with CFR Subchapter W § 199.45 "Tests and inspections of lifesaving equipment and arrangements.

Q: Page 51 - Item 0001 General Services - "Oily water and sludge Disposal - last sentence - where do we find referenced "Item 2.12 and Reference A"?

A: Reference is now made in "Other Hazardous materials and hazardous , regulated and special wastes found on page 34.

Q: Page 51 & 52 - telephone long distance charges. How many people will be using this service? How does government equate this requirement to fair competitive bidding? Will Government reimburse contractor for calls at end of contract?

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A: Four people will be using telephones to conduct business. There will be no additional reimbursement to the contractor for calls at the end of the contract.

Q: Page 52 - Steam -What horsepower, size, or number of pounds are required?

A: 100 pound steam

Q: Page 57 - Item 0008 - Again reference made to drawing 163-625431 rev B, and not included with specifications?

A: All drawings made available at site visit on December 18, 2001.

Q: Page 57 - Item 0009 - Again reference made to drawing 085-6630081, not included with specifications?

A: All drawings made available at site visit on December 18, 2001.

Q: Page 58 - Item 0012 - Is a drawing or sketch or data available to allow machine shop to bid "machining housing in place".?

A: No

Q: Page 58 - Item 0012 - Are anodes mentioned different from those specified in Item 0009?

A: No

Q: Page 59 - Item 0016 - Specification referenced drawings not made a part of solicitation for bidding purposes, will they be provided?

A: All drawings made available at site visit on December 18, 2001.

Q: Page 60 - Item 0017 - Under "MARKINGS" Second paragraph, last sentence. "The entire interior of the chain locker and drain sump is to be coated with preservative compound equal to existing in accordance with the manufacturer's recommendations". What is existing? Is it Amercoat 167 and 235 or has anything been added since 1997? Doesn't 235 require sweeping as a minimum surface preparation?

A: Amercoat 167 and 235 is the existing coating. Nothing has been added since 1997. Standard coating surface preparation in accordance with the MARAD coating guidelines applies.

Q: Page 63 - Item 0020 - Bilge Keels - What are width, thickness of new steel? What is configuration of keel; solid plate, wedge or box design, what internals are required?

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held December 18, 2001.

Q: Page 63 - Item 0022 - Fuel Oil Tank Inspection - Specifications indicate to fresh water wash all tanks, pump contents ashore, and dry tanks for several days. Will a simple diagram listing tanks and capacities be provided for estimating purposes?

A: The capacity and contents of tank is listed on page 64.

Q: Page 64 - Item 0023 - Fuel Oil Tank Conversions - Drawings referenced were not supplied with specifications. If this is open bidding how does yard that can't make bid inspection have an equal opportunity to submit a bid? Will drawings be made available?

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held December 18, 2001.

Q: Page 65 - Item 0027 - HFO Purifier Suction - What is new pipe length and diameter? What is size of valves? See also question #8 above.

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held December 18, 2001.

Q: Page 65 Item 0028 and page 66 item 0032 are motor pig tails to be renewed?

A: No

Q: Please forward the following dwg for the State of Maine

Item 0023 Fuel Oil tank Conversion
Dwg 541-6251455 sheets 1,2,3

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A: Drawings were available onboard the vessel during the site visit on December 18, 2001.

Q: Page 66 Item 032: Emergency Fire Pump - What is the HP or KW of the pump motor for the fire pump?

A: Reliance Electric motor, 75 horsepower, 3550 RPM, 440 Volts, 89.5 amps, type P, 60 HZ, 3 phase.

Q: Page 63 Item 022: Fuel Oil Tank Inspection - Is tank 5-47-1 the only tank involved for cleaning, gas freeing, & inspection. If others are involved, please provide list of tanks & capacities.

A: Correct

Q: Page 59 Item 013: Propeller Blade Seal Renewals and Inspection - Will Owners provide propeller representative for the blade seal renewal?

A: All controllable pitch propeller work is to be performed under the direct supervision of the government furnished original equipment manufacturer field service representative.

Q: Can you please revert with the maker information on item 0025 EG boiler and economizer for the subject vessel?

A: Exhaust gas boiler -
Senior Thermal Engineering
Type Water Tube

Q: Is past performance a requirement for this solicitation?

A: In accordance with Clause 52.212-2 "Evaluation-Commercial Items," past performance shall be a factor used to evaluate offers. Clause 52.212-1 "Instructions to Offerors-Commercial Items" states offers must show past performance information, when included as an evaluation factor, to include recent and relevant contracts for the same or similar items and other references (including contract numbers, points of contact with telephone numbers and other relevant information);

Q: Page 58, item 0012: Fwd/Aft Stern Tube Seal Inspect & Replacement - Can you provide a brand name for the dry cleaning solvent listed in spec. Contacted several dry cleaning suppliers. No suppliers recognize (P-D-680 Type II).

A: <http://es.epa.gov/eppcat/def00315.html>

OR HOC Industries, (316) 838-4663, NSN 6850 00285 8011, Comes in 55 gallon drums

Q: Page 65, item 0026 - #3 AC Unit Condenser & Chiller - Can units be removed without cutting access holes? How many interferences?

A: The Government does not guarantee the correctness of the dimensions, sizes, and shapes set forth in any contract, sketches, drawings, plans, or specifications prepared or furnished by the Government, unless the contract requires that the Contractor perform the work prior to any opportunity to inspect. The site visit was held December 18, 2001.