

**SOLICITATION / CONTRACT / ORDER FOR COMMERCIAL ITEMS**  
**OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30**

1. REQUISITION NUMBER  
 PAGE 1 OF 48

2. CONTRACT NO. DTMA2C07007  
 3. AWARD/EFFECTIVE DATE 05/14/2007  
 4. ORDER NUMBER  
 5. SOLICITATION NUMBER DTMA2R07005/0003  
 6. SOLICITATION ISSUE DATE 04/02/2007

**7. FOR SOLICITATION INFORMATION CALL:**  
 a. NAME Laurel Bishop  
 b. TELEPHONE NUMBER (No collect calls) (757) 441-3120 ext.  
 8. OFFER DUE DATE/ LOCAL TIME 04/04/2007 4:00 pm

9. ISSUED BY DOT/Maritime Administration, SAR Acquisition  
 Office of Acquisition, MRG-7200  
 7737 Hampton Boulevard, Building 4D, Room 211  
 Norfolk, VA 23505  
 TEL: (757) 441-3245 ext.  
 FAX: (757) 441-6080 ext.  
 CODE 00092  
 10. THIS ACQUISITION IS  
 UNRESTRICTED  
 SET ASIDE: 0.00% FOR  
 SMALL BUSINESS  
 HUBZONE SMALL BUSINESS  
 8(A)  
 NAICS: 336611  
 SIZE STANDARD: Over 1,000  
 11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED  
 SEE SCHEDULE  
 12. DISCOUNT TERMS  
 10 days %  
 20 days %  
 30 days %  
 days %  
 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)  
 13b. RATING  
 14. METHOD OF SOLICITATION  
 RFQ  IFB  RFP

15. DELIVER TO See Line Item Detail and Shipping Detail  
 CODE  
 16. ADMINISTERED BY DOT/Maritime Administration, SAR Acquisition  
 Office of Acquisition, MRG-7200, 7737 Hampton Boulevard, Building 4D, Room 211  
 Norfolk, VA 23505  
 CODE 00092

17a. CONTRACTOR/OFFEROR BAYONNE DRY-DOCK & REPAIR CORP  
 P.O. BOX 240  
 BAYONNE, NJ 07002-0240  
 TELEPHONE NO.(20 ) 823-9295 ext.  
 CODE \* FACILITY CODE  
 18a. PAYMENT WILL BE MADE BY DOT/Maritime Administration, South Atlantic Region  
 7737 Hampton Blvd., Bldg. 4D, Room 211  
 Norfolk, VA 23505  
 CODE 7400

17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN  OFFER  
 18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED  SEE ADDENDUM

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
(Use Reverse and/or Attach Additional Sheets as Necessary)					

25. ACCOUNTING AND APPROPRIATION DATA 2007 - - X1750 - 120 - SM - B107 - 0 - 0000 - 710000 - - - - 25 - - -  
 26. TOTAL AWARD AMOUNT (For Govt. Use Only) \$ 2,585,172.00

27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA  ARE  ARE NOT ATTACHED  
 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA  ARE  ARE NOT ATTACHED

28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 1 COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.  
 29. AWARD OF CONTRACT: REF. best & final offer OFFER  
 DATED 04/04/2007. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS: Schedule

30a. SIGNATURE OF OFFEROR/CONTRACTOR  
 31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)  
  
 30b. NAME AND TITLE OF SIGNER (Type or print) Milton G. Spears  
 30c. DATE SIGNED  
 31b. NAME OF CONTRACTING OFFICER (Type or print) Milton G. Spears  
 31c. DATE SIGNED 05/14/2007

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT

32a. QUANTITY IN COLUMN 21 HAS BEEN

RECEIVED     INSPECTED     ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED: \_\_\_\_\_

32b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	32c. DATE	32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE
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32e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE	32f. TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE
	32g. E-MAIL OF AUTHORIZED GOVERNMENT REPRESENTATIVE

33. SHIP NUMBER <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	34. VOUCHER NUMBER	35. AMOUNT VERIFIED CORRECT FOR	36. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	37. CHECK NUMBER
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38. S/R ACCOUNT NUMBER	39. S/R VOUCHER NUMBER	40. PAID BY
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41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT	42a. RECEIVED BY <i>(Print)</i>
41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER	41c. DATE
	42b. RECEIVED AT <i>(Location)</i>
	42c. DATE REC'D <i>(YY/MM/DD)</i>
	42d. TOTAL CONTAINERS

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 3 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0001	OFFICE AND ADMINISTRATIVE SERVICES  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$18,000.000	\$ 18,000.00
0002	WHARFAGE / LINE HANDLERS  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$35,000.000	\$ 35,000.00
0003	SHORE POWER  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$60,000.000	\$ 60,000.00
0004	POTABLE WATER  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$3,000.000	\$ 3,000.00
0005	BILGES AND DRAIN WELLS  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$12,000.000	\$ 12,000.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 4 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0006	WASTE WATER AND OILS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$3,000.000	\$ 3,000.00
	(See Attachment J-1, Statement of Work)					
0007	GARBAGE AND TRASH	(07/10/2007 to 08/23/2007)	1.00	JOB	\$21,000.000	\$ 21,000.00
0008	PROTECTIVE FLOOR COVERING	(07/10/2007 to 08/23/2007)	1.00	JOB	\$12,000.000	\$ 12,000.00
	(See Attachment J-1, Statement of Work)					
0009	SECURITY / WATCHMAN	(07/10/2007 to 08/23/2007)	1.00	JOB	\$38,000.000	\$ 38,000.00
	(See Attachment J-1, Statement of Work)					
0010	PAINTING GUIDELINE	(07/10/2007 to 08/23/2007)	1.00	N/A	\$ .000	\$ 0.00
	(See Attachment J-1, Statement of Work) Not Separately Priced					

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 5 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
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Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0011	VENTILATION & GAS FREE INSPECTIONS / CERTIFICATES  (07/10/2007 to 08/23/2007)  (See Attachment J-1, Statement of Work) Not Separately Priced		1.00	N/A	\$ .000	\$ 0.00
0012	FIRE PROTECTION  (07/10/2007 to 08/23/2007)  (See Attachment J-1, Statement of Work)		1.00	JOB	\$6,000.000	\$ 6,000.00
0013	PRODUCTION CONTROL  (07/10/2007 to 08/23/2007)  (See Attachment J-1, Statement of Work)		1.00	JOB	\$2,500.000	\$ 2,500.00
0014	SANITARY WASTE  (07/10/2007 to 08/23/2007)  (See Attachment J-1, Statement of Work)		1.00	JOB	\$6,500.000	\$ 6,500.00
0015	PORTABLE TOILETS / TEMPORARY FACILITIES  (07/10/2007 to 08/23/2007)  (See Attachment J-1, Statement of Work)		1.00	JOB	\$4,000.000	\$ 4,000.00

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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0016	COMPRESSED AIR	(07/10/2007 to 08/23/2007)	1.00	JOB	\$5,000.000	\$ 5,000.00
	(See Attachment J-1, Statement of Work)					
0017	COOLING WATER	(07/10/2007 to 08/23/2007)	1.00	JOB	\$5,000.000	\$ 5,000.00
	(See Attachment J-1, Statement of Work)					
0018	TEMPORARY LIGHTS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$500.000	\$ 500.00
	(See Attachment J-1, Statement of Work)					
0019	ELECTRIC MOTOR HEATING DEVICES	(07/10/2007 to 08/23/2007)	1.00	JOB	\$2,500.000	\$ 2,500.00
	(See Attachment J-1, Statement of Work)					
0020	STAGING	(07/10/2007 to 08/23/2007)	1.00	N/A	\$ .000	\$ 0.00
	(See Attachment J-1, Statement of Work) Not Separately Priced					

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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0021	OIL BOOM  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$1,500.000	\$ 1,500.00
0022	SHORE STEAM - DELETED  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	0.00	N/A	\$ .000	\$ 0.00
0023	DRYDOCK VESSEL  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$320,000.000	\$ 320,000.00
0024	UNDERWATER HULL PREPARATION AND COATING  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$143,000.000	\$ 143,000.00
0025	TOPSIDE HULL PREPARATION AND COATING  (See Attachment J-1, Statement of Work)	(07/10/2007 to 08/23/2007)	1.00	JOB	\$123,500.000	\$ 123,500.00

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FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0026	RENEW ZINC ANODES	(07/10/2007 to 08/23/2007)	1.00	JOB	\$11,000.000	\$ 11,000.00
	(See Attachment J-1, Statement of Work)					
0027	CATHODIC PROTECTION	(07/10/2007 to 08/23/2007)	1.00	JOB	\$18,000.000	\$ 18,000.00
	(See Attachment J-1, Statement of Work)					
0028	RUDDER AND STERN FRAME INSPECTION	(07/10/2007 to 08/23/2007)	1.00	JOB	\$19,000.000	\$ 19,000.00
	(See Attachment J-1, Statement of Work)					
0029	PROPELLER SHAFT WEARDOWN READING	(07/10/2007 to 08/23/2007)	1.00	JOB	\$9,000.000	\$ 9,000.00
0030	CONTROLLABLE PITCH PROPELLER MAINTENANCE	(07/10/2007 to 08/23/2007)	1.00	JOB	\$45,000.000	\$ 45,000.00

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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0031	TAILSHAFT AND STERN TUBE BEARING INSPECTION	(07/10/2007 to 08/23/2007)	1.00	JOB	\$190,000.000	\$ 190,000.00
0032	STERN TUBE OIL SEAL ASSEMBLY OVERHAUL	(07/10/2007 to 08/23/2007)	1.00	JOB	\$48,000.000	\$ 48,000.00
0033	SEA VALVE AND OVERBOARD DISCHARGE VALVE	(07/10/2007 to 08/23/2007)	1.00	JOB	\$76,000.000	\$ 76,000.00
0034	INTERNAL EXAM OF FUEL OIL AND WASTE OIL TANKS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$81,000.000	\$ 81,000.00
0035	SEA WATER BALLAST TANK INSPECTION	(07/10/2007 to 08/23/2007)	1.00	JOB	\$98,000.000	\$ 98,000.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 10 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0036	TREATED FRESH WATER BALLAST TANK INSPECTION	(07/10/2007 to 08/23/2007)	1.00	JOB	\$69,000.000	\$ 69,000.00
0037	FRESH WATER AND POTABLE WATER TANK INSPECTIONS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$34,000.000	\$ 34,000.00
0038	COFFERDAMS AND VOID SPACES INSPECTIONS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$18,000.000	\$ 18,000.00
0039	SEA WATER BALLAST TANK INITIAL COATING	(07/10/2007 to 08/23/2007)	1.00	JOB	\$246,000.000	\$ 246,000.00
0040	TANK INTERNAL REPAIRS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$38,500.000	\$ 38,500.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 11 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0041	AUDIO HULL GAUGING - ABS SSH NO. 4	(07/10/2007 to 08/23/2007)	1.00	JOB	\$26,000.000	\$ 26,000.00
0042	ANCHOR CHAIN AND LOCKER	(07/10/2007 to 08/23/2007)	1.00	JOB	\$35,000.000	\$ 35,000.00
0043	SEA WATER SUCTION STRAINERS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$24,000.000	\$ 24,000.00
0044	SEA WATER SUCTION LINE EXP JOINTS & ISOLATION VALVE	(07/10/2007 to 08/23/2007)	1.00	JOB	\$14,000.000	\$ 14,000.00
0045	GAUGE CALIBRATION	(07/10/2007 to 08/23/2007)	1.00	JOB	\$13,000.000	\$ 13,000.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 12 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0046	PIPING REPAIRS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$126,000.000	\$ 126,000.00
0047	MSD TANK INTERIOR COATING REPAIRS - DELETED	(07/10/2007 to 08/23/2007)	0.00	N/A	\$ .000	\$ 0.00
0048	TOPSIDE PAINTING	(07/10/2007 to 08/23/2007)	1.00	N/A	\$ .000	\$ 0.00
0049	NAVIGATION BRIDGE WINDOW GLASS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$4,750.000	\$ 4,750.00
0050	ANCHOR WINDLASS HYDRAULIC OIL TANK	(07/10/2007 to 08/23/2007)	1.00	JOB	\$5,500.000	\$ 5,500.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 13 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0051	GAS BOTTLE STORAGE RACK REMOVAL	(07/10/2007 to 08/23/2007)	1.00	JOB	\$2,000.000	\$ 2,000.00
0052	AFFF SYSTEM ISOLATION VALVES	(07/10/2007 to 08/23/2007)	1.00	JOB	\$6,000.000	\$ 6,000.00
0053	WEIGHT TEST SHIP STORE CRANES	(07/10/2007 to 08/23/2007)	1.00	JOB	\$6,000.000	\$ 6,000.00
0054	OILY WATER, DIRTY OIL AND SLOP REMOVAL	(07/10/2007 to 08/23/2007)	5.00	Tons	\$200.000	\$ 1,000.00
0055	STEEL RENEWAL AND HULL WELDING	(07/10/2007 to 08/23/2007)	0.00	N/A	\$ .000	\$ 0.00
	Not Separately Priced					

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 14 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0055AA	FLAT PLATE	(07/10/2007 to 08/23/2007)	1,000.00	LBS	\$10.000	\$ 10,000.00
0055AB	SHAPED PLATE	(07/10/2007 to 08/23/2007)	500.00	LBS	\$11.000	\$ 5,500.00
0055AC	COMPOUND PLATE	(07/10/2007 to 08/23/2007)	500.00	LBS	\$12.000	\$ 6,000.00
0055AD	BULKHEAD STEEL PLATING	(07/10/2007 to 08/23/2007)	500.00	LBS	\$12.500	\$ 6,250.00
0055AE	INTERNALS STEEL	(07/10/2007 to 08/23/2007)	1,000.00	LBS	\$13.000	\$ 13,000.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 15 of 48
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2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0055AF	GOUGE/VEE OUT AND REWELD	(07/10/2007 to 08/23/2007)	100.00	FT	\$35.000	\$ 3,500.00
	Per foot of 3/8" weld					
0055AG	CLEAN AND BUILD-UP WITH WELD	(07/10/2007 to 08/23/2007)	100.00	FT	\$35.000	\$ 3,500.00
	Per foot of 3/8" weld					
0056	DRYDOCK AND WET BERTH DAYS	(07/10/2007 to 08/23/2007)	0.00	N/A	\$ .000	\$ 0.00
	Not separately priced					
0056AA	HAUL DAY	(07/10/2007 to 08/23/2007)	1.00	DAY	\$25,000.000	\$ 25,000.00
0056AB	DRYDOCK LAY DAY	(07/10/2007 to 08/23/2007)	1.00	DAY	\$6,000.000	\$ 6,000.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 16 of 48
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FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0056AC	WET DOCK DAY	(07/10/2007 to 08/23/2007)	1.00	DAY	\$4,000.000	\$ 4,000.00
0057	TANK VENT PIPE RENEWAL	(07/10/2007 to 08/23/2007)	0.00	N/A	\$ .000	\$ 0.00
	Not separately priced					
0057AA	1-1/2 INCH VENT PIPE	(07/10/2007 to 08/23/2007)	1.00	EA	\$975.000	\$ 975.00
0057AB	2 INCH VENT PIPE	(07/10/2007 to 08/23/2007)	1.00	EA	\$1,300.000	\$ 1,300.00
0057AC	2-1/2 INCH VENT PIPE	(07/10/2007 to 08/23/2007)	1.00	EA	\$1,787.000	\$ 1,787.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 17 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0057AD	3 INCH VENT PIPE	(07/10/2007 to 08/23/2007)	1.00	EA	\$2,250.000	\$ 2,250.00
0057AE	4 INCH VENT PIPE	(07/10/2007 to 08/23/2007)	1.00	EA	\$3,260.000	\$ 3,260.00
0058	SALT WATER PIPING CROSSOVER LINE - DELETED	(07/10/2007 to 08/23/2007)	0.00	JOB	\$ .000	\$ 0.00
0059	SUPPLEMENTAL GROWTH REQUIREMENTS	(07/10/2007 to 08/23/2007)	0.00	N/A	\$ .000	\$ 0.00
	Not separately priced					
0059AA	SUPPLEMENTAL LABOR	(07/10/2007 to 08/23/2007)	2,000.00	MH	\$40.000	\$ 80,000.00
<p>The supplemental Labor Rate offered shall be a yardwide composite labor rate and include all management, supervision, overhead, G &amp; A, handling charges, freight, profit, contractor and sub-contractor burden, overtime, quality assurance, delay and disruption, bonding, insurance, etc. 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 contract line items. Under this CLIN, the government may order up to the indicated quantity of man-hours to be performed by the Contractor at the contract yardwide composite rate for supplemental labor. Authorization to proceed with supplemental labor work will be issued in writing on individual Delivery Orders at the option of the U.S. Maritime Administration.</p>						

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 18 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				
<b>Division</b>	<b>Closed FYs</b>	<b>Cancelled Fund</b>									
25											

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
0059AB	SUPPLEMENTAL MATERIAL	(07/10/2007 to 08/23/2007)	1.00	NTE	\$120,000.000	\$ 120,000.00
	THIS IS A NOT TO EXCEED AMOUNT					
	The allowance for supplemental material is for direct costs only. Any allowance for handling, equipment, profit and overhead is to be included in supplemental growth work. All work under this CLIN must be specifically authorized in writing by the COTR or Contracting Officer.					
	A cost of \$120,000.00 must be used for proposal submission purposes.					
0060	ECHO SOUNDER TRANSDUCER REPLACEMENT	(07/10/2007 to 08/23/2007)	1.00	JOB	\$11,000.000	\$ 11,000.00
0061	MAIN ENGINE JACKET WATER AND LUBE OIL COOLERS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$27,500.000	\$ 27,500.00
0062	MAIN PROPULSION CLUTCH, REDUCTION GEAR & OIL COOLERS INSPECTION	(07/10/2007 to 08/23/2007)	1.00	JOB	\$68,400.000	\$ 68,400.00
0063	MAIN PROPULSION THRUST & LINE SHAFT BEARING INSPECTIONS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$73,400.000	\$ 73,400.00

<b>Line Item Summary</b>	<b>Document Number</b> DTMA2C07007	<b>Title</b> TSSOM FY07 Drydock	<b>Page</b> 19 of 48
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**Total Funding:** \$2,585,172.00

FYs	Fund	Budget Org	Sub	Object Class	Sub	Program	Cost Org	Sub	Proj/Job No.	Sub	Reporting Category
2007	X1750	120	SM	B107	0	0000	710000				

**Division**  
25

**Closed FYs**

**Cancelled Fund**

Line Item Number	Description	Delivery Date (Start Date to End Date)	Quantity	Unit of Issue	Unit Price	Total Cost (Includes Discounts)
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0064	FUEL OIL HEATERS	(07/10/2007 to 08/23/2007)	1.00	JOB	\$26,800.000	\$ 26,800.00
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**Total Cost:** \$2,585,172.00

**Contract Level  
Funding Summary**

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2007 - - X1750 - 120 - SM - B107 - 0 - 0000 - 710000 - - - - 25 - - -

\$2,585,172.00

**Total Funding: \$2,585,172.00**

**Address Detail****Title**

TSSOM FY07 Drydock

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**Shipping Addresses**

<b>Code</b>	<b>Detail</b>	<b>Code</b>	<b>Detail</b>
0001	<b>Org:</b> DOT/Maritime Administration, SAR Acquisition <b>Addr:</b> Office of Acquisition, MRG-7200 7737 Hampton Boulevard, Building 4D, Room 211  Norfolk VA 23505 <b>Attn:</b> Glen Spears, Chief of Contracting Office <b>Phone:</b> (757) 441-3245 ext. <b>Fax:</b> (757) 441-6080 ext.	0002	<b>Org:</b> T.V. STATE OF MAINE <b>Addr:</b> Maine Maritime Academy 1 Water Street  Castine ME 04420 <b>Attn:</b> Joseph M. Poltrack, Supply Officer <b>Phone:</b> (207) 326-2421 ext. <b>Fax:</b> (207) 326-2131 ext.

**Invoice Addresses**

<b>Code</b>	<b>Detail</b>	<b>Code</b>	<b>Detail</b>
0001	<b>Org:</b> DOT/ Enterprise Services Center (ESC) OFO/FAA, <b>Addr:</b> MARAD A/P Branch, AMZ-150 PO Box 25710  Oklahoma City OK 73125 <b>Attn:</b> Justin Breeden, Accounting Technician <b>Phone:</b> (405) 954-2223 ext. <b>Fax:</b> ( ) - ext.	0002	<b>Org:</b> DOT/Maritime Administration, South Atlantic Regio <b>Addr:</b> 7737 Hampton Blvd., Bldg. 4D, Room 211  Norfolk VA 23505 <b>Attn:</b> Jennifer Phillips, Funds Control Officer <b>Phone:</b> (757) 441-3716 ext. <b>Fax:</b> (757) 441-6080 ext.

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## COMMERCIAL CLAUSES

1 52.212-01 INSTRUCTIONS TO OFFERORS--COMMERCIAL ITEMS

SEPTEMBER 2006

### Instructions to Offerors—Commercial Items (Sept 2006)

(a) North American Industry Classification System (NAICS) code and small business size standard. The NAICS code and small business size standard for this acquisition appear in Block 10 of the solicitation cover sheet (SF 1449). However, the small business size standard for a concern which submits an offer in its own name, but which proposes to furnish an item which it did not itself manufacture, is 500 employees.

(b) Submission of offers. Submit signed and dated offers to the office specified in this solicitation at or before the exact time specified in this solicitation. Offers may be submitted on the SF 1449, letterhead stationery, or as otherwise specified in the solicitation. **Seal in a separate envelope all pricing information.** As a minimum, offers must show—

(1) The solicitation number;

(2) The time specified in the solicitation for receipt of offers;

(3) The name, address, and telephone number of the offeror;

(4) A technical description of the items being offered in sufficient detail to evaluate compliance with the requirements in the solicitation. This may include product literature, or other documents, if necessary;

(5) Terms of any express warranty;

(6) Price and any discount terms;

(7) “Remit to” address, if different than mailing address;

(8) A completed copy of the representations and certifications at FAR 52.212-3 (see FAR 52.212-3(k) for those representations and certifications that the offeror shall complete electronically);

(9) Acknowledgment of Solicitation Amendments;

(10) 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); and

(11) If the offer is not submitted on the SF 1449, include a statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation. Offers that fail to furnish required representations or information, or reject the terms and conditions of the solicitation may be excluded from consideration.

(c) Period for acceptance of offers. The offeror agrees to hold the prices in its offer firm for 30 calendar days from the date specified for receipt of offers, unless another time period is specified in an addendum to the solicitation.

(d) Product samples. When required by the solicitation, product samples shall be submitted at or prior to the time specified for receipt of offers. Unless otherwise specified in this solicitation, these samples shall be submitted at no expense to the Government, and returned at the sender’s request and expense, unless they are destroyed during preaward testing.

(e) Multiple offers. Offerors are encouraged to submit multiple offers presenting alternative terms and conditions or commercial items for satisfying the requirements of this solicitation. Each offer submitted will be evaluated separately.

(f) Late submissions, modifications, revisions, and withdrawals of offers.

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(1) **Offerors are responsible for submitting offers, and any modifications, revisions, or withdrawals, so as to reach the Government office designated in the solicitation by the time specified in the solicitation.** If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that offers or revisions are due.

(2)(i) Any offer, modification, revision, or withdrawal of an offer received at the Government office designated in the solicitation after the exact time specified for receipt of offers is “late” and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and—

(A) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of offers; or

(B) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government’s control prior to the time set for receipt of offers; or

(C) If this solicitation is a request for proposals, it was the only proposal received.

(ii) However, a late modification of an otherwise successful offer, that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(3) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the offer wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(4) If an emergency or unanticipated event interrupts normal Government processes so that offers cannot be received at the Government office designated for receipt of offers by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation or other notice of an extension of the closing date, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(5) Offers may be withdrawn by written notice received at any time before the exact time set for receipt of offers. Oral offers in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before the exact time set for receipt of offers, subject to the conditions specified in the solicitation concerning facsimile offers. An offer may be withdrawn in person by an offeror or its authorized representative if, before the exact time set for receipt of offers, the identity of the person requesting withdrawal is established and the person signs a receipt for the offer.

(g) Contract award (not applicable to Invitation for Bids). The Government intends to evaluate offers and award a contract without discussions with offerors. Therefore, the offeror’s initial offer should contain the offeror’s best terms from a price and technical standpoint. However, the Government reserves the right to conduct discussions if later determined by the Contracting Officer to be necessary. The Government may reject any or all offers if such action is in the public interest; accept other than the lowest offer; and waive informalities and minor irregularities in offers received.

(h) Multiple awards. The Government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. Unless otherwise provided in the Schedule, offers may not be submitted for quantities less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit prices offered, unless the offeror specifies otherwise in the offer.

(i) Availability of requirements documents cited in the solicitation.

(1)(i) The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29, and copies of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained for a fee by submitting a request to—

GSA Federal Supply Service Specifications Section  
Suite 8100  
470 East L’Enfant Plaza, SW  
Washington, DC 20407

Telephone (202) 619-8925

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Facsimile (202) 619-8978.

(ii) If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (i)(1)(i) of this provision. Additional copies will be issued for a fee.

(2) Most unclassified Defense specifications and standards may be downloaded from the following ASSIST websites:

(i) ASSIST (<http://assist.daps.dla.mil>).

(ii) Quick Search (<http://assist.daps.dla.mil/quicksearch>).

(iii) ASSISTdocs.com (<http://assistdocs.com>).

(3) Documents not available from ASSIST may be ordered from the Department of Defense Single Stock Point (DoDSSP) by—

(i) Using the ASSIST Shopping Wizard (<http://assist.daps.dla.mil/wizard>);

(ii) Phoning the DoDSSP Customer Service Desk (215) 697-2179, Mon-Fri, 0730 to 1600 EST; or

(iii) Ordering from DoDSSP, Building 4, Section D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Telephone (215) 697-2667/2179, Facsimile (215) 697-1462.

(4) Nongovernment (voluntary) standards must be obtained from the organization responsible for their preparation, publication, or maintenance.

(j) Data Universal Numbering System (DUNS) Number. (Applies to all offers exceeding \$3,000, and offers of \$3,000 or less if the solicitation requires the Contractor to be registered in the Central Contractor Registration (CCR) database.) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS+4” followed by the DUNS or DUNS+4 number that identifies the offeror’s name and address. The DUNS+4 is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the offeror to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see FAR Subpart 32.11) for the same parent concern. If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. An offeror within the United States may contact Dun and Bradstreet by calling 1-866-705-5711 or via the internet at <http://www.dnb.com>. An offeror located outside the United States must contact the local Dun and Bradstreet office for a DUNS number.

(k) Central Contractor Registration. Unless exempted by an addendum to this solicitation, by submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance and through final payment of any contract resulting from this solicitation. If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror. Offerors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423 or 269-961-5757.

(l) Debriefing. If a post-award debriefing is given to requesting offerors, the Government shall disclose the following information, if applicable:

(1) The agency’s evaluation of the significant weak or deficient factors in the debriefed offeror’s offer.

(2) The overall evaluated cost or price and technical rating of the successful and the debriefed offeror and past performance information on the debriefed offeror.

(3) The overall ranking of all offerors, when any ranking was developed by the agency during source selection.

(4) A summary of the rationale for award;

(5) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(6) Reasonable responses to relevant questions posed by the debriefed offeror as to whether source-selection procedures set forth in the solicitation, applicable regulations, and other applicable authorities were followed by the agency.

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(End of provision)

2      52.212-03      OFFEROR REPRESENTATIONS AND CERTIFICATIONS -      FEBRUAR  
ALT III      COMMERCIAL ITEMS - ALTERNATE III      Y 2002

Reserved.

3      52.212-04      CONTRACT TERMS AND CONDITIONS--COMMERCIAL ITEMS      FEBRUAR  
Y 2007

(a) Inspection/Acceptance. The Contractor shall only tender for acceptance those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. If repair/replacement or reperformance will not correct the defects or is not possible, the Government may seek an equitable price reduction or adequate consideration for acceptance of nonconforming supplies or services. The Government must exercise its post-acceptance rights—

- (1) within a reasonable time after the defect was discovered or should have been discovered; and
- (2) before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(b) Assignment. The Contractor or its assignee may assign its rights to receive payment due as a result of performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency in accordance with the Assignment of Claims Act (31 U.S.C. 3727). However, when a third party makes payment (e.g., use of the Governmentwide commercial purchase card), the Contractor may not assign its rights to receive payment under this contract.

(c) Changes. Changes in the terms and conditions of this contract may be made only by written agreement of the parties.

(d) Disputes. This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613). Failure of the parties to this contract to reach agreement on any request for equitable adjustment, claim, appeal or action arising under or relating to this contract shall be a dispute to be resolved in accordance with the clause at FAR 52.233-01, Disputes, which is incorporated herein by reference. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any dispute arising under the contract.

(e) Definitions. The clause at FAR 52.202-01, Definitions, is incorporated herein by reference.

(f) Excusable delays. The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence such as, acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement or any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(g) Invoice. (1) The Contractor shall submit an original invoice and three copies (or electronic invoice, if authorized) to the address designated in the contract to receive invoices. An invoice must include-

- (i) Name and address of the Contractor;
- (ii) Invoice date and number;
- (iii) Contract number, contract line item number and, if applicable, the order number;
- (iv) Description, quantity, unit of measure, unit price and extended price of the items delivered;
- (v) Shipping number and date of shipment, including the bill of lading number and weight of shipment if shipped on Government bill of lading;
- (vi) Terms of any discount for prompt payment offered;

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- (vii) Name and address of official to whom payment is to be sent;
- (viii) Name, title, and phone number of person to notify in event of defective invoice; and
- (ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.
- (x) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision, contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer-Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer-Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(2) Invoices will be handled in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) prompt payment regulations at 5 CFR part 1315.

(h) Patent indemnity. The Contractor shall indemnify the Government and its officers, employees and agents against liability, including costs, for actual or alleged direct or contributory infringement of, or inducement to infringe, any United States or foreign patent, trademark or copyright, arising out of the performance of this contract, provided the Contractor is reasonably notified of such claims and proceedings.

(i) Payment.-(1) Items accepted. Payment shall be made for items accepted by the Government that have been delivered to the delivery destinations set forth in this contract.

(2) Prompt payment. The Government will make payment in accordance with the Prompt Payment Act (31 U.S.C. 3903) and prompt payment regulations at 5 CFR part 1315.

(3) Electronic Funds Transfer (EFT). If the Government makes payment by EFT, see 52.212-5(b) for the appropriate EFT clause.

(4) Discount. In connection with any discount offered for early payment, time shall be computed from the date of the invoice. For the purpose of computing the discount earned, payment shall be considered to have been made on the date which appears on the payment check or the specified payment date if an electronic funds transfer payment is made.

(5) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

(j) Risk of loss. Unless the contract specifically provides otherwise, risk of loss or damage to the supplies provided under this contract shall remain with the Contractor until, and shall pass to the Government upon:

- (1) Delivery of the supplies to a carrier, if transportation is f.o.b. origin; or
- (2) Delivery of the supplies to the Government at the destination specified in the contract, if transportation is f.o.b. destination.

(k) Taxes. The contract price includes all applicable Federal, State, and local taxes and duties.

(l) Termination for the Government's convenience. The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges the Contractor can demonstrate to the satisfaction of the Government using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred which reasonably could have been avoided.

(m) Termination for cause. The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon

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request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(n) Title. Unless specified elsewhere in this contract, title to items furnished under this contract shall pass to the Government upon acceptance, regardless of when or where the Government takes physical possession.

(o) Warranty. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

(p) Limitation of liability. Except as otherwise provided by an express warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items.

(q) Other compliances. The Contractor shall comply with all applicable Federal, State and local laws, executive orders, rules and regulations applicable to its performance under this contract.

(r) Compliance with laws unique to Government contracts. The Contractor agrees to comply with 31 U.S.C. 1352 relating to limitations on the use of appropriated funds to influence certain Federal contracts; 18 U.S.C. 431 relating to officials not to benefit; 40 U.S.C. 3701, et seq., Contract Work Hours and Safety Standards Act; 41 U.S.C. 51-58, Anti-Kickback Act of 1986; 41 U.S.C. 265 and 10 U.S.C. 2409 relating to whistleblower protections; 49 U.S.C. 40118, Fly American; and 41 U.S.C. 423 relating to procurement integrity

(s) Order of precedence. Any inconsistencies in this solicitation or contract shall be resolved by giving precedence in the following order: (1) the schedule of supplies/services; (2) the Assignments, Disputes, Payments, Invoice, Other Compliances, and Compliance with Laws Unique to Government Contracts paragraphs of this clause; (3) the clause at 52.212-05; (4) addenda to this solicitation or contract, including any license agreements for computer software; (5) solicitation provisions if this is a solicitation; (6) other paragraphs of this clause; (7) the Standard Form 1449; (8) other documents, exhibits, and attachments; and (9) the specification.

(t) Central Contractor Registration (CCR). (1) Unless exempted by an addendum to this contract, the Contractor is responsible during performance and through final payment of any contract for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(2)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in FAR Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (t)(2)(i) of this clause, or fails to perform the agreement at paragraph (t)(2)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(3) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(4) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423 or 269-961-5757.

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4      52.212-05      **CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS-- COMMERCIAL ITEMS.**      **MARCH 2007**

Contract Terms and Conditions Required to Implement Statutes or Executive Orders—Commercial Items (Sept 2006)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses, which are incorporated in this contract by reference, to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

(1) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).

(2) 52.233-4, Applicable Law for Breach of Contract Claim (Oct 2004) (Pub. L. 108-77, 108-78)

(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

[Contracting Officer check as appropriate.]

X\_\_ (1) 52.203-6, Restrictions on Subcontractor Sales to the Government (July 1995), with Alternate I (Sept 2006) (41 U.S.C. 253g and 10 U.S.C. 2402).

\_\_ (2) 52.219-3, Notice of Total HUBZone Set-Aside (Jan 1999) (15 U.S.C. 657a).

\_\_ (3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (July 2005) (if the offeror elects to waive the preference, it shall so indicate in its offer) (15 U.S.C. 657a).

\_\_ (4) [Reserved]

\_\_ (5)(i) 52.219-6, Notice of Total Small Business Set-Aside (June 2003) (15 U.S.C. 644).

\_\_ (ii) Alternate I (Oct 1995) of 52.219-6.

\_\_ (iii) Alternate II (Mar 2004) of 52.219-6.

\_\_ (6)(i) 52.219-7, Notice of Partial Small Business Set-Aside (June 2003) (15 U.S.C. 644).

\_\_ (ii) Alternate I (Oct 1995) of 52.219-7.

\_\_ (iii) Alternate II (Mar 2004) of 52.219-7.

X\_\_ (7) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)).

X\_\_ (8)(i) 52.219-9, Small Business Subcontracting Plan (Sept 2006) (15 U.S.C. 637(d)(4)).

\_\_ (ii) Alternate I (Oct 2001) of 52.219-9.

X\_\_ (iii) Alternate II (Oct 2001) of 52.219-9.

\_\_ (9) 52.219-14, Limitations on Subcontracting (Dec 1996) (15 U.S.C. 637(a)(14)).

\_\_ (10)(i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (Sept 2005) (10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer).

\_\_ (ii) Alternate I (June 2003) of 52.219-23.

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\_\_ (11) 52.219-25, Small Disadvantaged Business Participation Program—Disadvantaged Status and Reporting (Oct 1999) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).

\_\_ (12) 52.219-26, Small Disadvantaged Business Participation Program—Incentive Subcontracting (Oct 2000) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).

\_\_ (13) 52.219-27, Notice of Total Service-Disabled Veteran-Owned Small Business Set-Aside (May 2004).

X\_\_ (14) 52.222-3, Convict Labor (June 2003) (E.O. 11755).

X\_\_ (15) 52.222-19, Child Labor—Cooperation with Authorities and Remedies (Jan 2006) (E.O. 13126).

X\_\_ (16) 52.222-21, Prohibition of Segregated Facilities (Feb 1999).

X\_\_ (17) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

X\_\_ (18) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Sept 2006) (38 U.S.C. 4212).

X\_\_ (19) 52.222-36, Affirmative Action for Workers with Disabilities (Jun 1998) (29 U.S.C. 793).

X\_\_ (20) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Sept 2006) (38 U.S.C. 4212).

X\_\_ (21) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (Dec 2004) (E.O. 13201).

\_\_ (22)(i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (Aug 2000) (42 U.S.C. 6962(c)(3)(A)(ii)).

\_\_ (ii) Alternate I (Aug 2000) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)).

\_\_ (23) 52.225-1, Buy American Act—Supplies (June 2003) (41 U.S.C. 10a-10d).

\_\_ (24)(i) 52.225-3, Buy American Act—Free Trade Agreements—Israeli Trade Act (June 2006) (41 U.S.C. 10a-10d, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, Pub. L. 108-77, 108-78, 108-286), and 109-53.

\_\_ (ii) Alternate I (Jan 2004) of 52.225-3.

\_\_ (iii) Alternate II (Jan 2004) of 52.225-3.

X\_\_ (25) 52.225-5, Trade Agreements (June 2006) (19 U.S.C. 2501, et seq., 19 U.S.C. 3301 note).

\_\_ (26) 52.225-13, Restrictions on Certain Foreign Purchases (Feb 2006) (E.o.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).

\_\_ (27) 52.226-4, Notice of Disaster or Emergency Area Set-Aside (42 U.S.C. 5150).

\_\_ (28) 52.226-5, Restrictions on Subcontracting Outside Disaster or Emergency Area (42 U.S.C. 5150).

\_\_ (29) 52.232-29, Terms for Financing of Purchases of Commercial Items (Feb 2002) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).

\_\_ (30) 52.232-30, Installment Payments for Commercial Items (Oct 1995) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).

X\_\_ (31) 52.232-33, Payment by Electronic Funds Transfer—Central Contractor Registration (Oct 2003) (31 U.S.C. 3332).

\_\_ (32) 52.232-34, Payment by Electronic Funds Transfer—Other than Central Contractor Registration (May 1999) (31 U.S.C. 3332).

\_\_ (33) 52.232-36, Payment by Third Party (May 1999) (31 U.S.C. 3332).

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\_\_ (34) 52.239-1, Privacy or Security Safeguards (Aug 1996) (5 U.S.C. 552a).

X\_\_ (35)(i) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Feb 2006) (46 U.S.C. Appx. 1241(b) and 10 U.S.C. 2631).

\_\_ (ii) Alternate I (Apr 2003) of 52.247-64.

(c) The Contractor shall comply with the FAR clauses in this paragraph (c), applicable to commercial services, that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

[Contracting Officer check as appropriate.]

\_\_ (1) 52.222-41, Service Contract Act of 1965, as Amended (July 2005) (41 U.S.C. 351, et seq.).

\_\_ (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (May 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).

\_\_ (3) 52.222-43, Fair Labor Standards Act and Service Contract Act—Price Adjustment (Multiple Year and Option Contracts) (May 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).

\_\_ (4) 52.222-44, Fair Labor Standards Act and Service Contract Act—Price Adjustment (Feb 2002) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).

(d) Comptroller General Examination of Record. The Contractor shall comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does not contain the clause at 52.215-2, Audit and Records—Negotiation.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e)(1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c), and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in paragraphs (i) through (vii) of this paragraph in a subcontract for commercial items. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause—

(i) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$550,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Sept 2006) (38 U.S.C. 4212).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).

(v) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (Dec 2004) (E.O. 13201).

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(vi) 52.222-41, Service Contract Act of 1965, as Amended (July 2005), flow down required for all subcontracts subject to the Service Contract Act of 1965 (41 U.S.C. 351, et seq.).

(vii) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Feb 2006) (46 U.S.C. Appx. 1241(b) and 10 U.S.C. 2631). Flow down required in accordance with paragraph (d) of FAR clause 52.247-64.

(2) While not required, the contractor may include in its subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(End of clause)

## 5 INVOICE SUBMISSION - MARAD/SAR

The Contractor may submit invoices in either electronic or paper format. Electronic submission is preferred.

(1) Electronic invoices shall be addressed to [MARADInvoices@faa.gov](mailto:MARADInvoices@faa.gov), with copy to [MARADSARInvoices@dot.gov](mailto:MARADSARInvoices@dot.gov)

Electronic invoices shall conform to the following criteria, or be subject to rejection:

- a. Invoice and supporting documentation shall be in Adobe Acrobat (pdf) format.
- b. The e-mail subject shall include the contract/purchase order number and invoice number.
- c. The transmitting e-mail shall include the following information: Name of the Contractor; Invoice date and number; Invoice amount; Contract number and, if applicable, the order or modification number; Terms of any discount for prompt payment offered; Payment instructions (i.e., financial institution, ABA routing #, account #)

(2) Paper invoices shall be submitted to one of the following addresses. Multiple copies are not required.

MARAD A/P SAR Invoices Branch  
AMZ-150  
PO Box 25710  
Oklahoma City, OK 73125

If a street address is required for delivery (i.e., Federal Express), the following address may be used in lieu of the post office box:

MARAD A/P SAR Invoices Branch  
AMZ-150  
6500 S MacArthur Blvd.  
Oklahoma City, OK 73169

## 6 52.211-08 TIME OF DELIVERY

JUNE 1997

(a) The Government requires delivery to be made according to the following schedule:

REQUIRED DELIVERY SCHEDULE:

CLINS 0001-0064 Within 45 calendar days after commencement on July 10, 2007.

The Government will evaluate equally, as regards time of delivery, offers that propose of each quantity within the applicable delivery period specified above. Offers that propose delivery that will not clearly fall within the applicable required delivery period specified above will be considered nonresponsive and rejected. The Government reserves the right to award under either the required delivery



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(4) Perform, or pay the cost of, any repair, reconditioning or replacement made necessary as the result of the use by the Contractor of any of the vessel's machinery, equipment or fittings, including, but not limited to, winches, pumps, rigging, or pipe lines; and

(5) Furnish suitable offices, office equipment and telephones at or near the site of the work for the Government's use.

(d) The contract will state whether dock and sea trials are required to determine whether or not the Contractor has satisfactorily performed the work.

(1) If dock and sea trials are required, the vessel shall be under the control of the vessel's commander and crew.

(2) The Contractor shall not conduct dock and sea trials not specified in the contract without advance approval of the Contracting Officer. Dock and sea trials not specified in the contract shall be at the Contractor's expense and risk.

(3) The Contractor shall provide and install all fittings and appliances necessary for dock and sea trials. The Contractor shall be responsible for care, installation, and removal of instruments and apparatus furnished by the Government for use in the trials.

10      52.219-19      **SMALL BUSINESS CONCERN REPRESENTATION FOR THE  
SMALL BUSINESS COMPETITIVENESS DEMONSTRATION  
PROGRAM**      **OCTOBER  
2000**

(a) Definition. "Emerging small business" as used in this solicitation, means a small business concern whose size is no greater than 50 percent of the numerical size standard applicable to the North American Industry Classification System (NAICS) code assigned to a contracting opportunity.

(b) [Complete only if the Offeror has represented itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.] The Offeror  is,  is not an emerging small business.

(c) [Complete only if the Offeror is a small business or an emerging small business, indicating its size range.]

Offeror's number of employees for the past 12 months [check this column if size standard stated in solicitation is expressed in terms of number of employees] or Offeror's average annual gross revenue for the last 3 fiscal years [check this column if size standard stated in solicitation is expressed in terms of annual receipts]. **[Check one of the following.]**

No. of Employees    Avg. Annual Gross Revenues

50 or fewer     \$1 million or less

51 - 100     \$1,000,001 - \$2 million

101 - 250     \$2,000,001 - \$3.5 million

251 - 500     \$3,500,001 - \$5 million

501 - 750     \$5,000,001 - \$10 million

751 - 1,000     \$10,000,001 - \$17 million

Over 1,000     Over \$17 million

11      1252.217-  
74      **SUBCONTRACTS**      **OCTOBER  
1994**

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(a) Nothing contained in the contract shall be construed as creating any contractual relationship between any subcontractor and the Government. The divisions or sections of the specifications are not intended to control the Contractor in dividing the work among subcontractors or to limit the work performed by any trade.

(b) The Contractor shall be responsible to the Government for acts and omissions of its own employees, and of subcontractors and their employees. The Contractor shall also be responsible for the coordination of the work of the trades, subcontractors, and material men.

(c) The Contractor shall, without additional expense to the Government, employ specialty subcontractors where required by the specifications.

(d) The Government or its representatives will not undertake to settle any differences between the Contractor and its subcontractors, or between subcontractors.

12 MCL.H-2 SUPPLEMENTAL WORK REQUESTS

AUGUST  
2005

(a.) In the complex world of ship repairs, supplemental work often emerges as a result of test, inspection, or discovery of unknown or otherwise differing conditions. The extent and nature of such supplemental work can neither be identified in bid or proposal specifications, and both parties recognize the possibility that such work may arise. Notwithstanding the possibility of the identification of such work, MARAD does not guarantee the award of any supplemental work during contract performance.

(b.) Although MARAD shall be under no obligation to award supplemental work during contract performance, MARAD has provided an estimate for labor (in labor hours) and material (in dollars) for such work in the Schedule B, the applicable supplemental work contract line item. The offeror shall specify an hourly composite billing rate in its proposal for supplemental work labor. The composite labor-billing rate shall be the rate applicable to labor for all supplemental work that MARAD orders under the resulting contract. Any supplies or subcontracts required to complete supplemental work will be charged as a direct cost reimbursable under the applicable supplemental work CLIN; **ADDITIONAL INDIRECT CHARGES FOR MATERIALS AND SUBCONTRACTS WILL NOT BE ALLOWED.**

(c.) During the performance of the contract, when conditions indicate a need for supplemental work, the Contracting Officer's Technical Representative (COTR) is empowered to provide technical direction, negotiate the amount of labor and material, and authorize the contractor to perform supplemental work through the issuance of a written authorization. The COTR will issue authorizations for supplemental work in accordance with the following:

(1.) When conditions make supplemental work appropriate, the COTR shall submit to the contractor a supplemental work request that identifies the work to be accomplished.

(2.) The Contractor shall promptly review each supplemental work request upon receipt and shall, within seventy-two (72) hours of issuance, or sooner, as specified by the COTR, provide the COTR with a proposed price for the supplemental work. Price proposals for all supplemental work must be broken down by labor hours, materials, and subcontracts and allocated to the applicable supplemental work CLIN as appropriate. The contractor shall price the supplemental work to be performed in accordance with the composite labor rate bid or proposed under the supplemental work CLIN in the contract. If necessary, the Contractor shall submit prices for subcontractors, which will be negotiated and treated as direct materials. Once the COTR and contractor agree on the technical direction and price to accomplish the supplemental work, the contractor and COTR shall sign the authorization for supplemental work, which shall be final and binding on the contractor and MARAD. Subject to paragraphs (c.)(3.) through (c.)(6.), if urgent circumstances do not permit waiting for a written authorization, the parties may orally agree and follow up with written confirmation.

(3.) Notwithstanding the preceding, the COTR shall not authorize and the contractor shall not accept individual supplemental work authorizations from the COTR in excess of the price ceiling established by the Contracting Officer pursuant to paragraph (d.)(10.). In addition, the COTR shall not authorize and the contractor shall not accept a supplemental work authorization from the COTR that,

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when combined with all previously authorized supplemental work under the contract, exceeds the amount of labor hours and materials specified in the applicable supplemental work CLINs.

(4.) If the contractor requests an adjustment to the contract completion date in its proposal for the supplemental work, the COTR must refer the issue to the Contracting Officer for resolution, which could include modifying the performance period of the contract. All supplemental work must be accomplished within the contract performance period. The COTR shall not authorize and the contractor shall not accept supplemental work authorizations from the COTR that cannot be completed within the contract performance period.

(5.) If the COTR and contractor cannot agree upon the price, the time required, or any other term of a supplemental work request, the matter shall be referred to the Contracting Officer who may resolve the issue in accordance with the procedures contained in the Changes clause incorporated in the contract. Specifically, the Contracting Officer shall have the option of (i) directing that the Contractor perform the work at a price and within a time period determined by the Contracting Officer to be reasonable, or (ii) withdrawing said supplemental work request. The Contractor's refusal to perform the work as directed by the Contracting Officer shall constitute an event of default under the default clauses of the contract. Disputed issues resulting from supplemental work unilaterally directed by the Contracting Officer may be handled under the disputes clause of the contract.

(6.) If the Contracting Officer directs the Contractor to perform the work at a price and within a time period determined by the Contracting Officer to be reasonable, the Contractor shall maintain and submit to MARAD on a daily basis, report sheets itemizing materials used, the costs and man hours of all labor (direct, indirect, and impact), production schedule activities affected by and/or related thereto, and charges for equipment, whether furnished by the Contractor, subcontractors or others. Material charges shall be substantiated by valid copies of materials and/or suppliers invoices. Such invoices shall be submitted with the daily report sheets or, if not available, as soon as reasonably practicable thereafter. Said daily reports shall also include an indication as to which specific schedule activity(ies) are affected by the order which are the subject of the daily report sheets. To the extent the contractor fails or refuses to submit the aforementioned daily report sheets on a daily basis, such failure or refusal shall constitute a basis for the Contracting Officer to suspend payment for work completed under the supplemental work until appropriate documentation required by the contract is provided.

(d.) The following rules apply to supplemental work authorizations:

(1.) The COTR shall authorize supplemental-work only during the period of performance of the contract.

(2.) All authorizations for supplemental work are subject to the terms and conditions of the contract and must be within the scope of the contract.

(3.) If mailed, an authorization is considered "issued" when MARAD deposits the order in the mail. Authorizations may also be issued orally, or by written communications, that is hand-delivered or sent by facsimile or electronic transmission. Oral orders must be followed up by written confirmation as soon as practicable thereafter.

(4.) Unless otherwise explicitly noted in the authorization for supplemental work, all authorizations for supplemental work are firm fixed price. The agreed upon price shall cover all costs including, but not limited to, direct and indirect labor and material, overhead, delay, acceleration, and disruption caused by the supplemental work. Where the parties are unable to agree that an order establishes mutually agreeable terms, the parties shall note the specific differences that are not agreed upon in the text of the proposed work authorization and refer the matter to the Contracting Officer for resolution pursuant to paragraph (c.)(5.).

(5.) Unless the contractor otherwise explicitly notes in the supplemental work authorization, in consideration of the price of the order, the Contractor remises, releases, and forever discharges MARAD, its officers, agents, employees, and sureties from any and all civil claims and requests for equitable adjustment whatsoever, relating to, arising out of, or connected with said supplemental work authorization. Such release is full and final settlement of all claims and requests for equitable adjustment relating to, arising out of, or connected with the work authorization, as modified, including, but not limited to, all impact claims such as delay, acceleration, disruption, and cumulative effects of the instant and all previously issued supplemental work authorizations. The executed work authorization constitutes a complete and final adjustment of the price and the delivery schedule.

(6.) When MARAD requires supplies or services covered by the contract in an amount less than the total value of the contract, MARAD is not obligated to award supplemental work for the balance of the price bid or proposed for supplemental work. The Contractor is not obligated to honor additional supplemental work in excess of the estimated labor hours identified in the Schedule. This subparagraph does not affect or change the Contracting Officer's authority under the changes clause of the contract.

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(7.) Except for limitations of labor hours estimated in the Schedule, there is no limit to the number of supplemental work authorizations that may be issued. MARAD may issue supplemental work authorizations requiring delivery or performance in multiple locations, if the contract contemplates multiple locations.

(8.) In the event a supplemental work authorization covers a series of related procedures, the Contracting Officer may request the Contractor to furnish separate prices for each item of the work.

(9.) If not otherwise provided, the Contracting Officer may request at any time during performance of supplemental work a list of subcontractors performing work covered by the supplemental work, the dollar value of the respective subcontracts, and a description of the subcontracted work, and the contractor shall promptly provide the requested information.

(10.) The COTR shall not issue and the contractor shall not accept supplemental work authorizations from the COTR that exceeds \$10,000.

13 MCL.H-3 INDEMNITY AND INSURANCE

AUGUST  
2005

The Contractor shall indemnify and save and keep harmless the Government against any or all loss, cost, damage, claim, expense or liability whatsoever because of accident or injury to persons or property of others occurring in connection with the operations under this contract. The Contractor shall secure, pay the premiums for and keep in force until the expiration of this contract, and any renewal thereof, adequate insurance. Such insurance to specifically include liability assumed by the Contractor under this contract.

Each policy of insurance shall contain an endorsement that any cancellation or material change in the coverage adversely affecting the Government's interest shall not be effective unless the insurer or the Contractor gives written notice of cancellation or change as required to the Contracting Officer. When the coverage is provided by self-insurance, the Contractor shall not change or decrease the coverage without the Administrative Contracting Officer's prior approval.

A certificate of each policy of insurance shall be furnished to the Contracting Officer prior to Notice to Proceed certifying, among other things, that the policy contains the aforesaid endorsement. The insurance companies providing the above insurance shall be satisfactory to the Government. Notices of policy changes shall be furnished to the Contracting Officer.

The contractor shall provide at the Contractor's expense, within five days of request from the MARAD contracting officer, a copy of all original insurance policies. These may be sent by mail or facsimile machine.

The contractor's policy shall include the language "Should any of the above described policies be cancelled before the expiration date thereof, the issuing insurer will mail 30 days written notice to the certificate holder named to the left." In addition the following shall be included: "The United States of America is named as an additional insured as respects the SRLL/CGL and Pollution coverages. The policies contain a no recourse clause against the United States for premium payment."

14 MCL.H-4 INDEMNITY AND INSURANCE (ADDITIONAL)

AUGUST  
2005

(a) INDEMNITY

(1) The Contractor shall exercise reasonable care and use its best efforts to prevent accidents, injury or damage to all employees, persons and property in and about the work, and to the vessel or portion thereof upon which work is done.

(2) Except as provided elsewhere in this contract, including any guarantee clause, the MARAD assumes the risk of physical loss or damage to any part of the vessel, its machinery, equipment, stores, and other property including cargo if owned by the Government except to the extent that such loss or damage is caused by the negligence, fault, error, act or omission of the Contractor, its subcontractors, agents, or employees. The burden of proving freedom from fault shall be borne by the Contractor. Unless the loss or damage was caused by the willful misconduct of the Contractor, its executive officers, or superintendents the Contractor's liability under this Contract shall not exceed total damage to the ship or ships including total loss up to \$5,000,000 per accident or occurrence per vessel, and shall not exceed in the aggregate per accident or occurrence the sum of total damage to the ship or ships including total

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loss up to \$5,000,000 multiplied by the number of MARAD's vessels in the care, custody or control of the Contractor at the location and at the time of the accident or occurrence giving to the loss or damage.

(3) As to third parties, including, but not limited to, agents, employees or servants of the Contractor, or any subcontractor, the Contractor will defend, indemnify and hold harmless the Government, the vessel, its owners and charterers, from all claims, actions, suits, costs, demands and expense of all descriptions arising out of disease, illness, personal injury, death or property damage to any third party in any way related to or arising out of the performance of work under this contract except to the extent caused by the fault, error, act or omission, or negligence of the Government, its agencies or employees. The burden of proving fault of the Government, its agencies or employees shall be borne by the Contractor.

(4) As to loss and damage which are the responsibility of the Government, the Government shall be subrogated to any claim, demand, or course of action against third parties which exists in favor of the Contractor, and the Contractor shall, if required, execute a formal assignment or transfer of such claim, demand, or course of action, and shall aid in securing information, evidence, obtaining of witnesses, and cooperate with MARAD in all matters MARAD may deem necessary in defense of any claim, or suit or appeal from any judgment or in effecting indemnity, provided, further, that nothing contained in this paragraph shall create or give rise to any right, privilege or power in any person except the Contractor, nor shall any person (except the Contractor) be or become entitled thereby to proceed directly against the Government, its agencies or instrumentalities, or to join the Government, its agencies or instrumentalities, as a codefendant in any action against the Contractor brought to determine the Contractor's liability or for any other purpose.

(b) **TYPES OF INSURANCE AND MINIMUM COVERAGE.** The Contractor shall at its own expense, provide and maintain the following insurances during the entire performance of this contract.

(1) Workmen's Compensation, including Longshoremen & Harbor Worker's Act coverage - Covering all agents, servants, borrowed servants, statutory employees of Contractor for all compensation and other benefits required by applicable state and federal law or by governmental authority on account of injury, death, sickness or disease - Statutory - no minimum.

(2) Employers Liability - to cover both injury and death resulting from accident, sickness or disease - \$5 million bodily injury by accident, each accident - \$5 million bodily injury by disease each accident - \$5 million bodily injury by disease in the aggregate.

(3) Maritime Employers Liability (Jones Act) to cover both injury and death resulting from accident, sickness or disease - \$5 million for each person per occurrence and \$5 million in the aggregate.

(4) Comprehensive General Liability to include coverage for (but not limited to) products and completed operations liability, property damage liability and contractual liability - \$5 million combined single per occurrence limit for bodily injury and property damage and \$5 million in the aggregate.

(5) Ship Repairers Legal Liability - coverage to be provided under the standard London or American Institute forms or their equivalent \$5 million per vessel, per occurrence or such other amount as may be requested.

(6) Pollution - sudden and accidental liability - \$5 Million per occurrence.

(c) All such insurance shall be subject to the approval of the Division of Marine Insurance and will contain thirty (30) calendar days advance notice of cancellation or of any non-renewal which is the option of the insurer, said notice to be provided to the U.S. Department of Transportation, Division of Marine Insurance, MAR-575, Room 8117, 400 Seventh Street, S.W., Washington, DC 20590.

**(d) FORM OF CONFIRMATION**

(1) The pollution insurance may be a separate policy or part of the Comprehensive General Liability policy, but the coverage must be specifically shown on the required confirmation of insurance. Excess liability and umbrella liability policies may be used in the excess of primary policies to meet the minimum limit requirements. The United States of America shall be an additional assured in the Ship Repairs Legal Liability policy, Comprehensive General Liability Policy and Pollution Policy. Such policies shall contain a clause statement that there is no recourse against the United States of America for payment of premium. All such insurance shall be subject to the approval of the Division of Marine Insurance and must contain thirty (30) calendar days advance notice of cancellation (without disclaimer) or of any non-renewal which is the option of the insurer, said notice to be provided to the U.S. Department of Transportation, Division of Marine Insurance, MAR-575, Room 8117, 400 Seventh Street, S.W., Washington, DC 20590.

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(2) The Contractor shall have its insurance broker provide a detailed certificate of insurance, cover note or policy confirming the above required coverage. The confirmation shall name the Contractor and United States of America as assureds and confirm the types of coverage, policy forms, policy periods, deductibles (if any) and underwriters with their percentage of participation. The N.Y. Suable Clause or Service of Suit USA Clause must be confirmed for any Foreign underwriter placements. The policy amounts, terms and conditions, deductibles and underwriters shall at all times be satisfactory to the Maritime Administration.

(e) The contractor shall insert the substance of this clause in subcontracts under this contract that require work on a Government installation.

15 52.233-02 SERVICE OF PROTEST

SEPTEMBER 2006

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer, Laurel Bishop, by obtaining written and dated acknowledgment of receipt from U.S Department of Transportation, Maritime Administration - South Atlantic Region, Bldg. 4D, Room 211, Norfolk, VA 23505.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

16 MCL.L-2 AGENCY PROTESTS

AUGUST 2005

(a) Prior to submission of an agency protest, all parties shall use their best efforts to resolve concerns raised by an interested party at the Contracting Officer level through open and frank discussions. At any time the Contracting Officer and Protestor are encouraged to employ the use of alternative dispute resolution techniques to resolve the protest. When this cannot be accomplished interested parties may submit an agency protest to the Contracting Officer set forth in the Service of Protest provision of this solicitation.

(b) Protests based on alleged apparent improprieties in a solicitation shall be filed before bid opening or the closing date for receipt of proposals. In all other cases, protests shall be filed no later than 10 days after the basis of protest is known or should have been known, whichever is earlier.

(c) Protests shall include the following information. Failure to substantially include any of the following may be grounds for dismissal of the protest.

- (i) Name, address, and fax and telephone numbers of the protester.
- (ii) Solicitation or contract number.
- (iii) Detailed statement of the legal and factual grounds for the protest, to include a description of resulting prejudice to the protester.
- (iv) Copies of relevant documents.
- (v) Request for a ruling by the agency.
- (vi) Statement as to the form of relief requested.
- (vii) All information establishing that the protester is an interested party for the purpose of filing a protest.
- (viii) All information establishing the timeliness of the protest.

(d) Upon receipt and review of the protest to determine that adequate information is contained therein, the Contracting Officer will acknowledge receipt of the protest and inform the protester of the expected decision date. The Contracting Officer shall render a decision on the protest within 30 calendar days or notify the protestor of an extended decision date.

(e) Upon receipt of the Contracting Officer's decision, the protestor may appeal the decision within 15 calendar days of decision receipt. The appeal will result in an independent review of the protest by the Head of the Contracting Activity, the Associate Administrator for Administration. The Head of the Contracting Activity will impartially review the protest as presented, taking into consideration all of the available information, and render a decision. To the extent permitted by law and regulation, the Head of the Contracting Activity shall request relevant information from both parties. The Head of the Contracting Activity will render a decision



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(d) The Contractor shall pay when due all costs and expenses incident to the work performed by it or for its account. Neither the Contractor, nor its agents, servants, and employees, nor persons acting by, at the direction of, or on behalf of the Contractor (including, without limitation, any subcontractors) shall have the power to incur any lien of any kind maritime or otherwise. Such entities shall not (i) create, incur, suffer, or permit to be placed or imposed upon any vessel (or portion thereof), any maritime lien or other lien or encumbrance or charge in any way arising from any act or omission or (ii) incur or allow their subcontractors to incur any debts, obligations, or charges upon the credit of the vessel or against the United States of America or its agents, servants, or employees.

(e) Although it is not intended that the Contractor shall have the power to incur such liens, the Contractor shall immediately discharge or cause to be discharged any lien or right in remedy of any kind, whether incurred by the Contractor or its subcontractors, other than in favor of the Maritime Administration, which at any time exists or arises in connection with the work done or materials furnished under this contract.

(f) If any lien or right in remedy is not immediately discharged, MARAD may discharge or cause to be discharged such lien or right in remedy at the expense of the Contractor. MARAD shall have the right to recoup or setoff such funds from any monies owing to the Contractor from any other MARAD contract or any other Government contract. Should a question exist whether there is a valid lien or right in remedy, among other rights, MARAD shall have the right to retain such funds as security without interest.

(g) From the start of work under this contract the Contractor shall cause a notice, reading as follows (or containing such other information as may be approved by MARAD), in plain type and of such size that the reading matter shall cover a space of at least 2 feet wide by 2 feet high in weather resistant paint to be placed and maintained by the gangway and shall read as follows:

**"NOTICE TO SUBCONTRACTORS, MATERIALMEN, AND LABORERS**

This vessel is owned by the United States of America, acting by and through the Maritime Administration.

The Contractor, and all persons acting by, (prime contractor), at the direction of, or on behalf of the Contractor (including, without limitation, any subcontractors) have no right, power, or authority whatsoever to create, incur, or permit to be placed or imposed any lien or right in remedy of any kind upon any vessel upon which work is being performed under this Agreement. The Contractor, its agents, servants, and employees, have no authority, either express or implied, to pledge the credit of said vessel."

(h) At the option of MARAD, the Contracting Officer may require that as a condition either for entry upon a vessel of the MARAD by any subcontractor or in order for any subcontractor to provide necessaries to a vessel of the MARAD, that such subcontractor shall on behalf of itself, its agents, subcontractors, servants, and employees, and all persons acting by, at the direction of, or on behalf of such subcontractor waive its right to any maritime lien as well as any right in remedy of any kind based upon a maritime lien theory, upon or against any vessel upon which work has been, is being, or will be performed under this contract or against the United States of America or its agents, servants, and employees, known or unknown. The foregoing clause shall not prevent such subcontractor's right, if any, to proceed under the Contract Disputes Act.

(i) The foregoing clause shall not deprive MARAD of any of the rights or remedies which it has under the common law.

20 MCL.H-13 SUPERVISION

AUGUST  
2005

The Contractor shall provide at all times the quantity and quality of supervision necessary for the effective and efficient management of the operation. All supervisors shall have an intimate knowledge of the various tasks, equipment, and materials so as to be able to properly train and direct the workers in their individual tasks and to maintain and control an effective operation.

21 1252.217- GUARANTEE  
70

MAY 2005

(a) In the event any work performed or materials furnished by the contractor prove defective or deficient within 60 days from the date of redelivery of the vessel(s), the Contractor, as directed by the Contracting Officer and at its own expense, shall correct and repair the deficiency to the satisfaction of the Contracting Officer.

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(b) If the Contractor or any subcontractor has a guarantee for work performed or materials furnished that exceeds the 60 day period, the Government shall be entitled to rely upon the longer guarantee until its expiration.

(c) With respect to any individual work item identified as incomplete at the time of redelivery of the vessel(s), the guarantee period shall run from the date the item is completed.

(d) If practicable, the Government shall give the Contractor an opportunity to correct the deficiency.

(1) If the Contracting Officer determines it is not practicable or is otherwise not advisable to return the vessel(s) to the Contractor, or the Contractor fails to proceed with the repairs promptly, the Contracting Officer may direct that the repairs be performed elsewhere, at the Contractor's expense.

(2) If correction and repairs are performed by other than the Contractor, the Contracting Officer may discharge the Contractor's liability by making an equitable deduction in the price of the contract.

(e) The Contractor's liability shall extend for an additional 90 day guarantee period on those defects or deficiencies that the Contractor corrected.

(f) At the option of the Contracting Officer, defects and deficiencies may be left uncorrected. In that event, the Contractor and Contracting Officer shall negotiate an equitable reduction in the contract price. Failure to agree upon an equitable reduction shall constitute a dispute under the Disputes clause of this contract.

(End of clause)

22 1252.223- ACCIDENT AND FIRE REPORTING  
71

MAY 2005

(a) The Contractor shall report to the Contracting Officer any accident or fire occurring at the site of the work which causes:

- (1) A fatality or as much as one lost workday on the part of any employee of the Contractor or subcontractor at any tier;
- (2) Damage of \$1,000 or more to Government-owned or leased property, either real or personal;
- (3) Damage of \$1,000 or more to Contractor or subcontractor owned or leased motor vehicles or mobile equipment; or
- (4) Damage for which a contract time extension may be requested.

(b) Accident and fire reports required by paragraph (a) above shall be accomplished by the following means:

(1) Accidents or fires resulting in a death, hospitalization of five or more persons, or destruction of Government-owned or leased property (either real or personal), the total value of which is estimated at \$100,000 or more, shall be reported immediately by telephone to the Contracting Officer or his/her authorized representative and shall be confirmed by telegram or facsimile transmission within 24 hours to the Contracting Officer. Such telegram or facsimile transmission shall state all known facts as to extent of injury and damage and as to cause of the accident or fire.

(2) Other accident and fire reports required by paragraph (a) above may be reported by the Contractor using a state, private insurance carrier, or Contractor accident report form which provides for the statement of:

- (i) The extent of injury; and
- (ii) The damage and cause of the accident or fire.

Such report shall be mailed or otherwise delivered to the Contracting Officer within 48 hours of the occurrence of the accident or fire.

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(c) The Contractor shall assure compliance by subcontractors at all tiers with the requirements of this clause.

(End of clause)

23 MCL.H-7 ENVIRONMENTAL CONCERNS/ASBESTOS AUGUST  
RELATED/HAZARDOUS MATERIALS/ PETROLEUM AND 2005  
PETROLEUM PRODUCTS: ENVIRONMENTAL COMPLIANCE

The Contractor must recognize that MARAD vessels often contain hazardous substances, hazardous materials, petroleum and petroleum products, the handling, removal, storage, transportation and disposal of which is required in the performance of work. Such hazardous substances, hazardous materials, petroleum products include but are not limited to: Asbestos, used in heat and electrical insulation, brake linings, deck covering, boiler refractors, joiner work and other areas; mercury; petroleum products; hydraulic oils; liquid cargo products; lead in marine compounds, products and other areas; chromium; tin in anti-foulants and other areas; zinc; polychlorinated biphenyls (PCBs), found in some electrical cable, rubber gaskets, felt gaskets, thermal insulation material (fiberglass, felt, foam and cork), transformers, capacitors or voltage regulators, switches, reclosers, bushings, electromagnets, adhesives, tapes, oil (leaks, spills as well as electrical equipment, motor, anchor windlasses and hydraulic system containing oil), surface contamination of machinery and other solid surfaces, oil based paint, caulking, rubber isolation mounts, foundation mounts, pipe hangers, light ballasts and plasticizers, and other hazardous substances used aboard ship while in operation and/or in Phase IV maintenance.

In performance of the work by the Contractor, the most recent edition of any applicable statute, regulation, standard, or code shall be in effect. Where a conflict among requirements or specifications exist, the most stringent requirements shall be utilized.

#### HAZARDOUS SUBSTANCE/HAZARDOUS MATERIALS

The term hazardous substance has the meaning ascribed to it by 42 U.S.C. §9601(14). The term hazardous materials has the meaning ascribed to it by 49 CFR 171.8. The term hazardous material, is as defined for hazardous chemicals in 29 CFR 1910.1200.

#### Specific Requirement Standards: ASBESTOS

(a) All of the handling, removal, storage, transportation and disposal work shall be done in strict compliance with all applicable Federal, State and local statutes, regulations, standards, and codes governing asbestos, asbestos abatement, asbestos disposal and any other trade work done in conjunction with asbestos abatement including, but not limited to:

- (1) Occupational Safety and Health Administration (OSHA):
  - Title 29, CFR, Section 1910, Occupational Safety and Health Standards
  - Title 29, CFR, Part 1915, Occupational Safety and Health Standards for Shipyards Employment
  - Title 29, CFR, Part 1926, Safety and Health Regulations for Construction
  - Title 29, CFR, Section 1910.1200 Hazard Communication
  - Federal Register, dated June 20 and October 17, 1986, Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rule. (29 CFR Parts 1910 and 1926)
- (2) Environmental Protection Agency (EPA)
  - Title 40 CFR Part 61, Subparts A and M (revised Subpart B) National Emission Standard for Hazardous Air Pollutants (Asbestos) and Part 763 Asbestos.
  - Title 40 CFR Part 63, National Emission Standard for Hazardous Air Pollutants Subpart II National Emission Standards for Shipbuilding and Ship Repair (Surface Coating)
- (3) Maritime Administration (MARAD)

Action Plan for the Control of Asbestos Exposures and Uses in MARAD Programs.

NOTE: This action plan is available upon written request to:

Maritime Administration,  
Office of Management Services, MAR-310  
400 Seventh Street, SW., Room 7225

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Washington, D.C. 20590  
ATTN.: Safety Officer.

#### OTHER HAZARDOUS MATERIALS AND HAZARDOUS, REGULATED AND SPECIAL WASTES

Safe, proper and lawful handling of hazardous substances, hazardous materials and petroleum products is the Contractor's responsibility whether or not it is identified as such in this contract or any attachment herein. The Contractor must determine for itself whether work specified in this contract requires the handling, removal, storage, transportation or disposal of hazardous substances, hazardous materials, petroleum products, and/or hazardous regulated or special wastes and price the bid or proposal accordingly. If available, MARAD will provide to the Contractor information regarding the existence and amount of any such material. No additional charges required for handling, removal, storage, transportation, or disposal of any hazardous substances, hazardous materials, petroleum products and/or hazardous, regulated or special wastes in the specified work will be allowed after award is made. Except to extent such additional changes result from the existence of hazardous substances, hazardous materials, petroleum products and/or hazardous, regulated or special wastes that could not have been reasonably anticipated. In the event of the discovery of such material, a condition report shall be issued. The cost of such additional work will be fixed at the unit price provided in the bid. The work can proceed only upon written approval by the Contracting Officer. Any modification to the contract that increases the requirement for the handling, removal, storage, transportation and disposal of asbestos or other hazardous substances, hazardous materials, petroleum products, and/or hazardous, regulated or special wastes will be included in the agreed cost of the modification of the contract.

All of the handling, removal, storage, transportation and disposal work is to be done in strict compliance with all applicable Federal, State and local regulations, standards, and codes governing environmental compliance, including, but not limited to the following:

1. ENVIRONMENTAL PROTECTION AGENCY (EPA) TITLE 40,
  - Part 50, National Primary and Secondary Ambient Air Quality Standards
  - Part 63 National Emission Standards for Hazardous Air Pollutants Subpart II National Emission Standards for Shipbuilding and Ship Repair (Surface Coating)
  - Part 82, Protection of Stratospheric Ozone
  - Part 110, Discharge of Oil
  - Part 112, Oil Pollution Prevention
  - Part 117, Determination of Reportable Quantities for Hazardous Substances
  - Part 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
  - Part 125, Criteria and Standards for the National Pollutant Discharge Elimination System
  - Part 261, Identification and Listing of Hazardous Waste
  - Part 262, Standards Applicable to Generators of Hazardous Waste
  - Part 279, Standards for the Management of Used Oil
  - Part 300, National Oil and Hazardous Substance Pollution Contingency Plan
  - Part 302, Designation, Reportable Quantities, and Notification
  - Part 355, Emergency Planning and Notification
  - Part 370, Hazardous Chemical Reporting: Community Right-to-Know
  - Part 372, Toxic Chemical Release: Community Right-to-Know
  - Part 761, Polychlorinated Biphenyls Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
  - Part 763, Asbestos
  
2. COAST GUARD (USCG) TITLE 33 CFR,
  - Part 153, Control of Pollution by Oil and Hazardous Substances, Discharge Removal
  - Part 154, Facilities Transferring Oil or Hazardous Material in Bulk
  - Part 156, Oil and Hazardous Material Transfer Operations
  
3. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) Title 29 CFR,
  - Part 1910, Occupational Safety and Health Standards
  - Part 1915, Occupational Safety And Health Standards for Shipyard employment
  - Part 1926, Occupational Safety and Health Regulations for Construction
  
4. RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION (RSPA) TITLE 49 CFR,
  - Subchapter C, Hazardous Materials Regulations

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The Contractor shall be required to demonstrate a through knowledge of and satisfactory record of compliance with all applicable Federal, State and local environmental statutes, regulations, standards, codes and guidelines governing environmental compliance as part of the pre-award survey.

The Contractor shall be responsible as the generator of all hazardous, solid, regulated and special waste that results from activities of the Contractor under this agreement. The Contractor is required to arrange for transportation and disposal of regulated waste generated during the ship's operational period if required by this contract. The Contractor shall be responsible for all permitting, reporting, transporting, documenting and /or disposing of said wastes and for obtaining all appropriate Environmental Protection Agency Identification Numbers and permits and/or state or local equivalent. In addition, the contractor shall be responsible for:

- (a) conducting required laboratory testing;
- (b) maintaining any and all required records;
- (c) filing any and all reports required by Federal, State or local statute, regulation, standard or guidelines to be filed by the Generator of such waste or the holder of such permits, or numbers; and,
- (d) complying with all applicable Federal, State and local statutes, regulations standards, codes, or guidelines.

The Contractor shall provide all documentation to the COTR pertaining to the sampling, analysis, storage, transportation and disposal of all wastes generated during the contract.

#### ENVIRONMENTAL MANAGEMENT PLAN

For all work performed, the Contractor shall submit to the designated MARAD COTR or representative, an acceptable hazardous material and hazardous waste management plan to the COTR within one week after award. An acceptable plan shall address, as a minimum, the following requirements:

- A. Environmental Protection Agency (EPA), State and local authority hazardous waste generator identification numbers or registration with the state or local equivalent, of the Contractor, his/her transporters, storage and disposal facilities (TSDFs).
- B. An inventory of all hazardous chemicals, compounds, and other agents brought aboard the vessel accompanied by their respective Material Safety Data Sheets. The Contractor shall provide and maintain the Material Safety Data Sheets for all hazardous materials in accordance with CFR 29 1910.1200.
- C. A list of all anticipated hazardous wastes to be generated and applicable reference to federal, state, and local regulations.
- D. Waste collection and containment procedures in accordance with 40 CFR 262.
- E. A hazardous materials spill and cleanup plan including tools and materials that will be on hand and readily available to facilitate containment and cleanup.
- F. Training certification for the environmental compliance manager and respective employees.
- G. The Contractor will identify and quantify the amount of hazardous waste generated in the course of the MARAD ship repair. Upon completion of the contract, cost and quantities will be summarized and forwarded to the Office of Environmental Activities MAR-820 Rm. 7209, 400 Seventh St., S.W., Washington, D.C. 20590 for annual OMB A-106 reporting requirements.

#### 24 TAR 1252.217-73 INSPECTION AND MANNER OF DOING WORK

(a) The Contractor shall perform work in accordance with the contract, any drawings and specifications made a part of the job order, and any change or modification issued under the Changes clause.

(b)(1) Except as provided in paragraph (b)(2) of this clause, and unless otherwise specifically provided in the contract, all operational practices of the Contractor and all workmanship, material, equipment, and articles used in the performance of work under this contract shall be in accordance with the best commercial marine practices and the rules and requirements of all appropriate regulatory bodies including, but not limited to the American Bureau of Shipping, the U.S. Coast Guard, and the Institute of Electrical and Electronic Engineers, in effect at the time of Contractor's submission of offer, and shall be intended and approved for marine use.

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(2) When Navy specifications are specified in the contract, the Contractor shall follow Navy standards of material and workmanship. The solicitation shall prescribe the Navy standard whenever applicable.

(c) The Government may inspect and test all material and workmanship at any time during the Contractor's performance of the work.

(1) If, prior to delivery, the Government finds any material or workmanship is defective or not in accordance with the contract, in addition to its rights under the Guarantee clause, the Government may reject the defective or nonconforming material or workmanship and require the Contractor to correct or replace it at the Contractor's expense.

(2) If the Contractor fails to proceed promptly with the replacement or correction of the material or workmanship, the Government may replace or correct the defective or nonconforming material or workmanship and charge the Contractor the excess costs incurred.

(3) As specified in the contract, the Contractor shall provide and maintain an inspection system acceptable to the Government.

(4) The Contractor shall maintain complete records of all inspection work and shall make them available to the Government during performance of the contract and for 90 days after the completion of all work required.

(d) The Contractor shall not permit any welder to work on a vessel unless the welder is, at the time of the work, qualified to the standards established by the U.S. Coast Guard, American Bureau of Shipping, or Department of the Navy for the type of welding being performed. Qualifications of a welder shall be as specified in the contract.

(e) The Contractor shall—

(1) Exercise reasonable care to protect the vessel from fire;

(2) Maintain a reasonable system of inspection over activities taking place in the vicinity of the vessel's magazines, fuel oil tanks, or storerooms containing flammable materials.

(3) Maintain a reasonable number of hose lines ready for immediate use on the vessel at all times while the vessel is berthed alongside the Contractor's pier or in dry dock or on a marine railway;

(4) Unless otherwise provided in the contract, provide sufficient security patrols to reasonably maintain a fire watch for protection of the vessel when it is in the Contractor's custody;

(5) To the extent necessary, clean, wash, and steam out or otherwise make safe, all tanks under alteration or repair.

(6) Furnish the Contracting Officer a "gas-free" or "safe-for-hotwork" certificate before any hot work is done on a tank;

(7) Treat the contents of any tank as Government property in accordance with the Government Property (Fixed-Price Contracts) clause; and

(8) Dispose of the contents of any tank only at the direction, or with the concurrence, of the Contracting Officer.

(9) Be responsible for the proper closing of all openings to the vessel's underwater structure upon which work has been performed. The contractor additionally must advise the COTR of the status of all valves closures and openings for which the contractor's workers were responsible.

(f) Except as otherwise provided in the contract, when the vessel is in the custody of the Contractor or in dry dock or on a marine railway and the temperature is expected to go as low as 35 Fahrenheit, the Contractor shall take all necessary steps to—

(1) Keep all hose pipe lines, fixtures, traps, tanks, and other receptacles on the vessel from freezing; and

(2) Protect the stern tube and propeller hubs from frost damage.

(g) The Contractor shall, whenever practicable—

(1) Perform the required work in a manner that will not interfere with the berthing and messing of Government personnel attached to the vessel; and

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(2) Provide Government personnel attached to the vessel access to the vessel at all times.

(h) Government personnel attached to the vessel shall not interfere with the Contractor's work or workers.

(i)(1) 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.

(2) Except as stated in paragraph (i)(1) of this clause, and other than those parts furnished by the Government, and the Contractor shall be responsible for the correctness of the dimensions, sizes, and shapes of parts furnished under this agreement.

(j) The Contractor shall at all times keep the site of the work on the vessel free from accumulation of waste material or rubbish caused by its employees or the work. At the completion of the work, unless the contract specifies otherwise, the Contractor shall remove all rubbish from the site of the work and leave the immediate vicinity of the work area "broom clean."

(End of clause)

## 25 TYPE OF CONTRACT

52.216-1 Type of Contract (Apr 1984)

The Government contemplates award of a firm fixed-price contract resulting from this solicitation.

(End of provision)

## 26 1252.223-73 SEAT BELT USE POLICIES AND PROGRAMS

In accordance with Executive Order 13043, Increasing Seat Belt Use in the United States, dated April 16, 1997, the contractor is encouraged to adopt and enforce on-the-job seat belt use policies and programs for its employees when operating company-owned, rented, or personally-owned vehicles. The National Highway Traffic Safety Administration (NHTSA) is responsible for providing leadership and guidance in support of this Presidential initiative. For information on how to implement such a program or for statistics on the potential benefits and cost-savings to your company or organization, please visit the Buckle Up America section of NHTSA's website at [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov). Additional resources are available from the Network of Employers for Traffic Safety (NETS), a public-private partnership headquartered in the Washington, D.C. metropolitan area, and dedicated to improving the traffic safety practices of employers and employees. NETS is prepared to help with technical assistance, a simple, user friendly program kit, and an award for achieving the President's goal of 90 percent seat belt use. NETS can be contacted at 1-888-221-0045 or visit its website at [www.trafficsafety.org](http://www.trafficsafety.org).

27 1252.217- TITLE  
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(a) Unless otherwise provided, title to all materials and equipment to be incorporated in a vessel in the performance of this contract shall vest in the Government upon delivery at the location specified for the performance of the work.

(b) Upon completion of the contract, or with the approval of the Contracting Officer during performance of the contract, all Contractor-furnished materials and equipment not incorporated in, or placed on, any vessel, shall become the property of the Contractor, unless the Government has reimbursed the Contractor for the cost of the materials and equipments.

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(c) The vessel, its equipment, movable stores, cargo, or other ship's materials shall not be considered Government-furnished property.

**ATTACHMENT J-1 STATEMENT OF WORK**

**VESSEL PARTICULARS**

<b>NAME:</b>	<b>T.S. STATE OF MAINE</b> (ex USNS TANNER)	
<b>TYPE:</b>	U.S. MARAD TRAINING VESSEL	
<b>OFFICIAL REGISTRY NUMBER:</b>	CG029703	
<b>BUILDER:</b>	Bethlehem Steel Corp, Sparrows Point, MD	
<b>YEAR BUILT:</b>	1990	
<b>LENGTH OVERALL:</b>	499.83 ft	
<b>BEAM:</b>	72 ft	
<b>DEPTH (Molded at Main Deck):</b>	42 ft	
<b>DRAFT (Max, Keel – S.L.L.)</b>	30 ft 06 in	
<b>DEADWEIGHT:</b>	6864 tons	
<b>USCG GROSS TONNAGE:</b>	12542 tons	
<b>USCG NET TONNAGE:</b>	3762 tons	
<b>USCG CERTIFICATION:</b>	Public Nautical School ship	
<b>ABS CLASSIFICATION:</b>	†A1 †AMS; †ACC	
<b>MAIN ENGINE:</b>	MaK M-601, Diesel, Rated 6000 KW	
<b>PROPULSION MOTOR:</b>	2000 HP	
<b>PROPULSION PROPELLER:</b>	Type:	Controllable Pitch
	Mfr:	LIPS BV
	Diameter:	5000 mm
	Number of Blades:	4

## GENERAL SERVICES / REQUIREMENT

### LINE ITEM No. 0001 OFFICE AND ADMINISTRATIVE SERVICES

#### 1. ABSTRACT

- 1.1. This item describes the Administrative Services that the Contractor will provide for the entire shipyard period.

#### 2. REFERENCES/ENCLOSURES

- 2.1. None

#### 3. ITEM LOCATION/DESCRIPTION

- 3.1. None

#### 4. NOTES

- 4.1. Contractor should note that a minimum of ten crew members will be onboard during the duration of the contract period. Parking spaces near the vessel, adequate parking passes and security to be provided to accommodate these personnel.

#### 5. STATEMENT OF WORK

- 5.1. Contractor shall provide an office space with three (3) separate offices and one (1) reception area. Office spaces shall include with air conditioning, heat, lighting, desks, chairs, plan table (drafting board), toilet, shower and changing lockers, three (3) telephones with unrestricted local and domestic long distance service, and four (4) DSL lines for internet service (telephone billing to be paid directly by the Contractor), twelve (12) parking spaces next to the office, and custodian services for MARAD and MMA representatives. This office shall located within 100 feet of the ship's gangway.
- 5.2. Administrative services shall be provided from one (1) day before arrival of the vessel at the Contractor's facility through two (2) days following departure of the vessel from Contractor's facility:
- 5.3. Contractor shall furnish administrative services as follows:
  - 5.3.1. Four (4) desks, four (4) swivel chairs, Office machine table (3' x 8') and four 4-drawer legal sized locking file cabinets. One (1) Conference table with chairs for ten (10) people.
  - 5.3.2. Coffee maker, stand-up refrigerator, (15 cu. ft. minimum), microwave and bottled refrigerated water cooler with sufficient bottled water for the duration of the contract.
  - 5.3.3. Private toilet and washroom facilities, including hot and cold water
  - 5.3.4. Clean towels, soap and hand cleaner on a daily basis.
  - 5.3.5. Paper shredder.

- 5.3.6. Janitorial service on a daily basis to clean office and toilet areas.
- 5.3.7. Twelve (12) reserved parking spaces near office space and vessel.
- 5.3.8. Unobstructed access to subject office on a twenty-four hour, seven day a week basis for the duration of the contract.
- 5.3.9. Three (3) new HP 7400 Series LaserJet Office. The new printers shall be turn-over to ship via COTR at the end of contract.
- 5.3.10. One (1) fax machine and provided with its own telephone line and number.
- 5.3.11. One (1) copy machine capable of copying legal size and letter size paper, with reduction and enlargement modes, automatic feed and collation capabilities.
- 5.3.12. Sufficient letter size and legal size paper for the duration of the contract period.
- 5.3.13. Office supplies for six (6) persons.
- 5.3.14. Automatic time stamp clock.
- 5.4. Provide transportation to transport the Chief Engineer or his representative and COTR to and from Contractor's and subcontractor's repair facilities in order to witness inspections/shop tests of equipment/machinery undergoing repair. If the inspection/test is out of town, the Contractor shall provide round trip airline tickets when the inspection/test can be completed on the same day. If additional days are required, the Contractor shall provide lodging and necessary expenses.

**LINE ITEM No. 0002 WHARFAGE / LINE HANDLERS**

1. ABSTRACT

- 1.1. This item describes the requirements for wharfage, mooring lines, gangway and fire escapes.

2. REFERENCES

- 2.1. None

3. ITEM LOCATION / DESCRIPTION

- 3.1. Contractor's Facility

4. NOTES

- 4.1. Contractor shall provide a safe berth and adequate mooring for the vessel throughout the period of performance. MARAD COTR reserves the right to review, approve, or disapprove in his sole opinion any Contractor proposed berthing arrangement.
- 4.2. The Contractor may be required at its cost to provide berth soundings, pier or mooring arrangement plans, mooring calculations, independent surveyor reports and/or regulatory approvals to if directed. The Contractor remains solely responsible for the complete safety of the vessel while it is in its custody.

## 5. STATEMENT OF WORK

- 5.1. Provide services of tugs, harbor pilots and line handlers to accept the delivery of the vessel at the Contractor's facility, to let go on redelivery, to dock, to undock, and to shift the vessel as may be required for the entire repair period and any extensions thereof.
- 5.2. Furnish labor to supply and handle lines to make vessel fast at pier and to shift within the Contractor's facility. Vessel is to be properly secured at all times. The vessel's mooring lines may be utilized. Lines that are not in use shall be properly stowed. All lines shall be protected from damage by sandblasting or other work. All lines used for mooring are to be maintained with Contractor-furnished rat guards at all times.
- 5.3. If the vessel requires ballast for either towing or trimming, tanks extending above the double bottom are to be treated against expansive ice damage if the vessel's repair port is in a freezing environment. Note that the vessel's ballast system will only be usable if work is not taking place on the system.
- 5.4. Provide safe and proper gangways for access to the ship at all times including during drydocking. Ship's equipment shall not be used. Gangways fitted shall be in compliance with Article 1501.44, "Access to Vessels", of Safety and Health Regulations for Ship Repairing promulgated by the Secretary of Labor pursuant to Public Law 85-742. Each gangway installed shall be outfitted with a stringer of lights running from the top of the gangway to the ground including any platforms and stairs used in conjunction with the gangway. The lights shall be maintained in a safe and working condition and shall be illuminated at all times from dusk to dawn and in periods of reduced visibility from dawn to dusk. In addition, safety nets shall be provided and secured to the ship and to the pier edge so as to cover the area between the ship and pier and/or sides of the drydock in way of the means of access as follows:
  - 5.4.1. For a distance of 6 feet on either side of the means of access if rigged as a thwart ship gangway.
  - 5.4.2. To extend 6 feet beyond the outboard side of the access ladder if hung parallel with the ship's side.

## **LINE ITEM No. 0003 SHORE POWER**

### 1. ABSTRACT

- 1.1. This item describes the shore power requirements for the vessel during the availability.

### 2. REFERENCES

- 2.1. None

### 3. ITEM LOCATION / DESCRIPTION

- 3.1. LOCATION: Shore power connection box is located outside aft deck house on the main deck

### 4. NOTES

- 4.1. None

## 5. STATEMENT OF WORK

- 5.1. Supply uninterrupted electric power to the vessel for lighting and other essential purposes via a Contractor-furnished shoreside breaker. Power supply is to be maintained to the vessel 24 hrs/day 7 days/week for the duration of the contract, including the time the vessel is on drydock. Current shall be a minimum of 800 amps to maintain and test essential equipment. The electric power shall be 440 Volts, 60 Hertz, 3-Phase. All power and or/lighting cable shall be furnished, connected, disconnected and removed by the Contractor. Contractor shall connect and/or disconnect shore power cables on arrival, during vessel shifts, when fleeting, and upon departure. The ship is equipped with a total of four (4) U.S. Navy Standard Shore Power Receptacles, 400 amps each. Contractor shall furnish two (2) 400 amp compatible shore power plugs connected to its shore power cable for connecting the shore power supply directly through the ship's shore power connectors located at the Main Deck, Stern area. Electric cables utilized by the Contractor for shore power shall be in good material condition and shall be free of torn, cracked, or non-watertight repaired insulation. Cables shall be clearly marked to ensure that they are readily identifiable at all times.
- 5.2. Provide and install a voltage recording device and continuously measure and record the voltages at the shore power to ship connection. These records are to be taken at the ship location.
- 5.3. Cables damaged during the contract performance period shall be promptly replaced or repaired in an approved manner without delay.
- 5.4. Prior to energizing the shore power, phase rotation shall be jointly checked with the ship's Chief Engineer to ensure compatibility with the ship's electrical equipment.
- 5.5. Upon completion of repair availability disconnect power source and remove from vessel.

Special Note: 1) Contractor shall be responsible for replacing all burned-out lamps if the supplied shore power voltage at any time exceeds 480 Volts or is lower than 425 volts.

2) While the vessel is in drydock, the shore power to the vessel shall be fed off circuits independent of those serving equipment used to maintain the drydock, i.e., drydock pumps, lighting, etc.

## **LINE ITEM No. 0004 POTABLE WATER**

### 1. ABSTRACT

- 1.1. It is the intent of this item is to provide distilled and potable water to the vessel, as required for testing, flushing, cleaning, and for filling of the vessel's potable water tanks.

### 2. REFERENCES / ENCLOSURES

- 2.1. None

### 3. ITEM LOCATION / DESCRIPTION

#### 3.1. LOCATION:

- 3.1.1. Total (3) Potable Water Storage Tanks, 5-104-0, 2-110-1 and 2-110-2.
- 3.1.2. Fill connection located port side aft on main deck

4. NOTES

- 4.1. Allow 500 L/T of fresh Potable Water to fill vessel's potable water tanks as directed by Chief Engineer.
- 4.2. This allowance does not include water used during any flushing, cleaning testing. For fresh water ballast to be priced separately under appropriate Items.
- 4.3. Cost of disposal/removal of all water used for flushing, cleaning or testing and ship's sewage is on the Contractor's account.
- 4.4. All equipment used to transport and deliver potable water shall be designated for potable-water use only. This includes but is not limited to piping, hoses, and fittings. COTR shall inspect potable water connections prior to the filling of any potable tank.
- 4.5. Contractor shall certify that potable water provided is fit to drink.

5. STATEMENT OF WORK REAUQUIRED

- 5.1. Provide hoses and fittings, make all connections, disconnections and reconnections, and supply all potable water required for vessel sanitary, culinary, testing, cleaning and for filling of the vessel's potable water tanks via hoses fitted with vacuum breaker/back flow preventer.
- 5.2. Provide equipment and potable water to flush and refill ship's chilled water and engines' jacket water system.
- 5.3. Provide potable water to fill vessel's potable water tanks as needed during contract performance period.
- 5.4. Prior to redelivery of the ship, the Contractor shall fill the ship's potable water tanks. Approximately 300 Long Tons of potable water will be required. This amount is in addition to the aforementioned requirements.

**LINE ITEM No. 0005 BILGES AND DRAIN WELLS**

1. ABSTRACT

- 1.1. This item describes the requirements for bilge space pumping throughout the Contract.

2. REFERENCES

- 2.1. None

3. ITEM LOCATION / DESCRIPTION

- 3.1. LOCATION: Bilge spaces throughout the vessel.

4. NOTES

- 4.1. None

5. STATEMENT OF WORK REQUIRED

- 5.1. Immediately upon the vessel's arrival at the Contractor's facility, main engine room, MSD room and shaft alley bilge wells are to be completely pumped down, opened, and entirely cleaned. Once all debris is removed, all surfaces within each well are to be de-greased by hand and appropriate detergent. After COTR approval, replace strainer plates in good order. The standing and wash water shall be pumped ashore to suitable holding tanks and properly disposed of by the Contractor.
- 5.2. The engine room, MSD room and shaft alley bilge/tank top and bilge wells shall be left clean and dry on a daily basis. Contractor shall provide hoses, fittings and pumping equipment; make all connections and disconnections; and pump out the ship's oily water/sludge from the engine room bilge/tank top bilge wells to Contractor-furnished receiving tanks or containers ashore. Pumping shall be on a continuous basis as necessary. Ship's equipment shall not be used to pump any oily water, slops, or waste. Contractor shall properly dispose of all waste/oily water and maintain the tanks/containers empty and ready to receive pumped out liquids.
- 5.3. After all work is completed and just prior to redelivery of the ship, the Contractor shall use chemical to degrease and high pressure (3,000 psig) water jet clean the entire engine room, MSD room and shaft alley bilge/tank top surface. Pump and properly dispose of all oily water and chemical and leave the engine room bilge/tank top spaces in a dry and clean condition.
- 5.4. The Contractor shall dispose of oily water, sludge, chemical, waste material, etc., in compliance with all current Federal, State and Local anti-pollution and public health laws and regulations.
- 5.5. Engine room bilges shall be left in a clean, dry condition at departure from the repair facility.

**LINE ITEM No. 0006 WASTE WATER AND OILS**

1. ABSTRACT

- 1.1. This item describes the requirements for the proper disposal of all liquid waste collected or removed from the vessel throughout the Contract.

2. REFERENCES

- 2.1. None

3. ITEM LOCATION / DESCRIPTION

- 3.1. LOCATION: Tanks, voids and spaces throughout the vessel.

4. NOTES

- 4.1. None.

5. STATEMENT OF WORK REQUIRED

5.1. Immediately upon the vessel's arrival at the Contractor's facility, the Waste-Oil Tanks are to be completely emptied. Approximately 7 tons of waste oil shall be pumped from the Waste Oil Tank. The waste oil shall be pumped ashore to suitable holding tanks and properly disposed of by the Contractor in accordance with Federal, State and Local anti-pollution and public health laws and regulations.

5.2. Contractor is responsible for removal and disposal of any water or other liquids drained from any system or equipment or used for flushing, cleaning or testing.

## **LINE ITEM No. 0007 GARBAGE AND TRASH**

### 1. ABSTRACT

1.1. This item describes the requirements for garbage and debris removal in way of work areas and general clean up throughout the vessel during the course of the availability and final clean up prior to delivery to the COTR.

### 2. REFERENCES

2.1. None

### 3. ITEM LOCATION / DESCRIPTION

3.1. LOCATION: Throughout the vessel.

### 4. NOTES

4.1. None

### 5. STATEMENT OF WORK REQUIRED

5.1. Furnish labor to remove garbage and debris from the vessel on a daily basis. All accumulated debris shall be removed. At no time shall garbage and debris be allowed to become hazardous to the well-being of personnel or the ship. Prior to redelivery, hose and wash all of the ship's external horizontal decks, deck house external vertical surfaces, and all other external surfaces with fresh water to the satisfaction of the COTR.

5.2. Clean and remove all dirt and debris from the ship on a daily basis. All areas involved in work or traversed by workers or equipment shall be left clean and in good order.

5.3. Provide an adequate amount of waste containers near the vessel's gangway for purpose of collecting solid waste and HAZMAT. HAZMAT must be contained based on specific type. Like HAZMAT can be stored in the same container and dissimilar HAZMAT must be separated. Both HAZMAT and Solid Waste Containers must be removed from the ship on a frequent basis. Contractor is responsible for the proper disposal of all waste removed from the vessel. In addition, provide daily (including Saturdays, Sundays, and Holidays) removal and disposal of all garbage and debris generated by the ship's crew. The crew will deposit such waste at a designated location on the ship in covered metal containers. These metal containers are to be furnished by the Contractor.

- 5.4. Provide trash receptacles ***in work areas only*** to prevent trash from being littered on the vessel. Receptacles shall be emptied on a daily basis, or as required.
- 5.5. The Contractor and COTR shall make a joint survey of the entire vessel at least three (3) days prior to delivery to determine final clean up.
- 5.6. Prior to delivery, all weather decks shall be washed down with fresh water.

**LINE ITEM No. 0008 PROTECTIVE FLOOR COVERING**

1. ABSTRACT

- 1.1. It is the intent of this item to protect the ship's decking for the duration of this contract.

2. REFERENCES

- 2.1. None

3. ITEM LOCATION/DESCRIPTION

- 3.1. LOCATION: Ship's office, classroom, all public passageways, and mess halls.
- 3.2. DESCRIPTION: Heavy template paper or equivalent

4. NOTES

- 4.1. None

5. STATEMENT OF WORK REQUIRED

- 5.1. Immediately upon arrival at the Contractor's facility and prior to allowing workers aboard, Contractor shall provide, install and secure protective covering on interior passageways and spaces prior to commencement of repairs. All protective covering material shall be 1/8" thick plywood or Masonite or other suitable hardboard. Material shall be taped and adequately secured to the deck and bulkhead. Building paper or other paper products are not acceptable. In the event that the COTR finds excessive traffic in areas not specifically mentioned, these areas will be suitably covered at his direction and at no extra cost. These areas are to include, but not be limited to, the following:

- 5.1.1. Ship's Offices
- 5.1.2. Mess rooms
- 5.1.3. Class Rooms
- 5.1.4. Main, 0-1, and 0-2 passageway decks
- 5.1.5. Staterooms in which work is being performed
- 5.1.6. Entrances into all accommodation passageways

- 5.2. Thoroughly clean decks and bulkheads prior to installing covering material. Protective coverings are to be maintained throughout the repair period and all decks, bulkheads, and interior spaces are to be delivered in good, clean condition upon completion of the repair period. Damages and soiling to existing floor tiling, bulkheads, and overhead surfaces will be repaired and/or

cleaned at the Contractor's expense.

- 5.3. At the end of the repair period, protective coverings shall be removed and these and all other areas in the ship's accommodation traversed by Contractor personnel shall be thoroughly cleaned. A joint survey will be conducted at the end of the repair period to determine adequacy of cleaning performed. Final acceptance will be by the COTR.

**LINE ITEM No. 0009 SECURITY / WATCHMAN**

1. ABSTRACT

- 1.1. This item describes requirements for shipboard (gangway) security.

2. REFERENCES

- 2.1. None

3. ITEM LOCATION / DESCRIPTION

- 3.1. LOCATION: Throughout the vessel.

4. NOTES

- 4.1. Provisions for gangway security shall be considered on a per diem basis, and the total cost for the entire availability shall be submitted as the bid price. In the case of an increase or decrease in the length of the Contract, the cost (or credit) for gangway security shall be based on the per diem amount, figured by dividing the bid price by the length of the Contract (in days).

5. STATEMENT OF WORK REQUIRED

- 5.1. Provide the services of a bonded uniformed security guard stationed at the gangway during the entire repair period on a twenty-four hour, seven days per week basis. Security guards shall be from a security service company and shall not be a Contractor regular employee.
- 5.2. A daily log shall be maintained. All persons, other than Contractor personnel, shall be logged on and off the vessel. The log shall contain blocks for the printed name, organization represented, number, time on board, time departed. A new page shall be started for each new day starting at 0001 hours. The log will be the property of MARAD.
- 5.3. The security guards shall insure that only authorized personnel (those directly involved with the specified work prescribed herein) are allowed on board. Visitors shall be accompanied by an authorized person.
- 5.4. The security guards shall be instructed that the Contractor's personnel are forbidden access to any part of the ship not necessary to complete items listed within these specifications, except under emergency conditions, such as fire, flooding, storms, etc.
- 5.5. The Security guard shall have access to a telephone communication at all times. In addition, communication with other shipyard security forces shall also be maintained. The security guards shall be provided with a listing of personnel contacts, including COTR and Contractor's Representatives, with day, evening and weekend phone numbers.

## 6. PERFORMANCE CRITERIA / DELIVERABLES

### 6.1. Security Log (item 5.2)

#### **LINE ITEM No. 010 PAINTING GUIDELINE**

##### ABSTRACT

It is the intent of this item to provide general guidelines that shall be followed wherever and whenever surfaces are prepared to be coated or paint or coatings are applied.

##### REFERENCES

MARAD Coating Guidance

##### ITEM LOCATION/DESCRIPTION

LOCATION: Throughout vessel.

##### NOTES

None

##### STATEMENT OF WORK REQUIRED

All coatings are to be applied under the Paint Technical Representative's direct supervision. No application of coatings shall be made until the prepared surfaces are approved by the Paint Technical Representative and MARAD COTR or his Representative. The Contractor is to arrange for such inspections prior to the initial coating and prior to each subsequent coating.

Any grit abrasive used for blasting shall be dry, have the proper pH, meet requirements on the paint manufacturer's product data sheet and be acceptable to the on-site Paint Technical Representative.

All paint used shall be completely mixed making certain bottom sediments are in suspension. Thinning shall only be done in accordance with the manufacturer's instructions and after final approval by the COTR and the Paint Technical Representative. Final coverage shall be as specified by the paint manufacturer and this specification.

All coatings shall be sprayed or applied with rollers and/or brushes in accordance with the paint manufacturer's instructions. Every attempt should be made to minimize overspray. Areas found to contain runs, overspray, roughness or any other film irregularities shall be repaired or recoated as directed, at Contractor's expense.

The final dry film thickness (DFT) readings shall be taken and recorded through use of an ultrasonic thickness instrument. A detailed report outlining the preparation, coating system and quantities of material shall be provided to MARAD COTR.

Staging for painting shall be absolutely free from grit when any coating is being applied.

Outdoor coatings shall not be applied under unfavorable weather conditions.

Freshly applied coatings are to be protected from blasting in adjacent areas.

Steel temperature shall be a minimum of five (5) degrees Fahrenheit above the dew point of the air prior to the application of any and all coatings.

Relative humidity shall be no higher than 85 - 90 percent at the time of coating.

Coatings shall not be applied when condensation/moisture is present on the surface.

All surfaces will be swept free of debris and blown down with compressed air prior to any coating system being applied.

No coatings shall be applied to surfaces on which oxidation has commenced

Drying and recoating times of the manufacturer shall be strictly adhered to.

In touch-up painting where only localized areas or spots require painting, removal of old paint shall extend beyond the edges of the spot until an area of completely intact and adherent paint film is present. The edges of the remaining tightly adherent paint around the area to be repainted shall be feathered down sufficiently to avoid a "patch work" effect. Overlap new paint over existing coating by at least 2 to 3 cm.

Safety precautions shall be employed to protect personnel and to prevent damage to the vessel and its equipment during all phases of painting operations.

#### 5.18 Coating new and disturbed areas.

5.18.1 All new and disturbed areas for each work Item carried out by the Contractor are to be prepared and coated per the following coating specification. Coating manufacturers may be substituted on an as equal basis with reference to the MARAD Coating Guidelines (Latest Revision) along with the COTR prior written approval.

5.18.2 Color is to match the existing/surrounding surfaces color scheme.

5.18.3 All disturbed areas shall be prepared for coating to SSPC-SP3 standard with power tools. Apply touch up coating in accordance to MARAD Coating Guidance Manual

5.18.4 New steel, where practical, shall be prepared for coating to a SSPC-SP10 standard by blasting and then primed with shop primer to a DFT of 3 mils. Further coating is required as noted above.

5.18.5 These requirements are general. Coating systems specified in individual work items, such as underwater hull coating, will take precedence.

5.18.6 The cost of coating new or disturbed areas required for each specification Item is to be included within the applicable Item.

### **LINE ITEM No. 011 VENTILATION & GAS FREE INSPECTIONS / CERTIFICATES (GENERAL REQUIREMENT)**

#### 1. ABSTRACT

1.1. This item describes the requirements to provide ventilation and Gas Free Certificates aboard the vessel.

## 2. REFERENCES

2.1. OSHA 29 CFR, Part 1915

## 3. ITEM LOCATION / DESCRIPTION

3.1. LOCATION: Throughout the vessel.

## 4. NOTES

4.1. The costs and expenses incurred in achieving a "Safe for Entry" and / or "Safe for Hot Work" condition and in obtaining and maintaining said certificates shall be included in the respective specification item.

## 5. STATEMENT OF WORK REQUIRED

5.1. Any confined spaces, including tanks, must be certified "Safe for Entry" by a Certified Marine Chemist prior to the entry of any person.

5.2. Any space or location in which hot work is to be performed, any space adjacent or having a common boundary to a location in which hot work is to be performed, and any piping system within a space in which hot work is to be performed shall be certified "Safe for Hot Work" by a Certified Marine Chemist prior to the commencement of hot work. Hot work shall include but not be limited to welding, brazing, heating, cutting, and grinding.

5.3. Maintain certificates, on a daily basis, by use of a Marine Chemist or qualified Designated Competent Person who will visually inspect the vessel to ensure that the vessel's safety condition is unchanged for the continuation of hot work and entry.

5.4. Remove any fluids or other substances necessary to achieve and maintain a "Safe-for-Entry" and / or "Safe for Hot Work" condition.

5.5. Provide clean fresh-air ventilation when and where required to achieve and maintain a "Safe for Entry" and / or "Safe for Hot Work" condition. Locations shall include but not be limited to:

5.5.1. All ballast tanks, cofferdams and voids

5.5.2. All fuel oil, waste oil and lube oil tanks

5.5.3. All potable-water tanks

5.5.4. All sewage tanks

5.6. All additional costs and re-certification due to shifting vessel within yard, ballasting or de-ballasting, growth work and/or additional items and sea trial departure/arrival shall be included in this item.

5.7. Post the original "Marine Chemist's Certificates" and Log of Inspection and Tests by a Competent Person" (OSHA Form #74) and reissued certificates in a protected cover in a conspicuous location at the vessel's gangway and at the entrance to each gas-free tank or space. Also, one copy is to be furnished to the attending COTR.

5.8. Provide copies of Designation of Competent Persons (OSHA Forms 73) to the attending COTR Representative

6. PERFORMANCE CRITERIA / DELIVERABLES

6.1. Post the original "Marine Chemist's Certificates" and Log of Inspection and Tests by a Competent Person" (OSHA Form #74) and reissued certificates in a protected cover in a conspicuous location at the vessel's gangway and at the entrance to each gas-free tank or space. Also, one copy shall be furnished to the COTR.

6.2. Provide copies of Designation of Competent Persons (OSHA Forms 73) to the COTR.

**LINE ITEM No.012      FIRE PROTECTION**

1. ABSTRACT

1.1. This item describes the requirements for fire protection on the vessel during the availability.

2. REFERENCES

2.1. None

3. ITEM LOCATION / DESCRIPTION

3.1. Provide and install fire main manifolds on the following locations: 01 deck, bow mooring deck, 01 deck, mid-ship areas, between the forward and aft deck house, and main deck, stern areas.

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Furnish, install, and maintain a charged two and one-half inch (2.5") fire hose with a "Y" manifold both forward and aft on the vessel's Weather Deck. The water pressure at the "Y" manifolds shall be maintained at 125 psig. Provide sufficient length of hose to reach all areas of the vessel from the "Y" manifolds. The second end of the "Y" connection shall connect into the vessel's fire main (Pressure shall be 125 psig at the fire main connection. Contractor is to install a pressure gauge at these connections). Contractor shall not pressurize the vessel's fire main unless directed by the COTR.

5.2. Contractor shall provide a qualified Fire Protection service engineer to lock-out and completely disable the ship's Halon and CO<sub>2</sub> systems upon the vessel's arrival at the Contractor's facility and to restore them to operation upon completion of all work and prior to vessel's redelivery.

5.3. Provide portable charged fire extinguishers in all work areas where repair work is underway.

5.4. Provide an adequate fire-watch with manned fire extinguishers in appropriate locations wherever and whenever hot work is being performed. Hot work shall include but not be limited to welding, brazing, cutting, heating, and grinding.

5.5. Ensure safe hot-work procedures are followed.

5.6. Remove and then reinstall upon completion of work any materials or objects including but not limited to those in adjacent or adjoining spaces or on common boundaries to spaces in which hot work is to be performed that could create a hazard during hot work.

**LINE ITEM No. 013      PRODUCTION CONTROL**

1. ABSTRACT

1.1. This item describes the various production reports that the Contractor shall prepare for the COTR during the course of the availability.

2. REFERENCES

2.1. None

3. ITEM LOCATION / DESCRIPTION

3.1. None

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. GANTT PRODUCTION CHART

5.1.1. No later than five (5) days after the award of contract, deliver to the MARAD COTR a Gantt (bar type) Production Chart clearly indicating planned start and completion dates for each item of the specification by Contractor and Subcontractors. The Gantt chart shall outline critical path items, key events and controlling items. Notice to proceed shall be contingent on acceptance of submitted production chart. The Contractor remains responsible for providing the chart, complete, including input from Subcontractors.

5.1.2. Each bar shall be divided into its major components, i.e. Design, Procurement, Shop Fabrication, Installation, Test or other item evolutions necessary for completion. The Y-axis (vertical) of the Production Chart shall indicate each item of activity and each principle event; the X-axis (horizontal) is to be subdivided into work days/weeks.

5.1.3. The Production Chart shall be amended weekly to incorporate added/deleted work, and each bar shall be legibly marked to indicate current status of the activity.

5.1.4. The Production Chart shall have an appropriate title block indicating job identification number, vessel name, and chart date.

5.1.5. The COTR shall use the Contractor's Production Chart to measure Contractor performance to scheduled ship's completion date. In the event that the Contractor does not substantially support this planned work effort, Contractor shall be required to respond to requests by the COTR via a written deficiency notice. Each notice issued against work performance on specific work items requires the Contractor to reschedule that work item, citing the reason for progress delay and the corrective action to be implemented to assure timely Contract completion.

## 5.2. CONDITION-REPORT STATUS REPORT

5.2.1. Prepare and submit a condition-report status report. The report shall at a minimum list the number of each condition report, the associated specification number(s), the date each report was submitted to the COTR, the date a reply about each report is returned from the COTR, and the delivery order number associated with each condition report if a delivery order was issued by the COTR against the condition reports.

## 5.3. SUB-CONTRACTOR LIST

5.3.1. No later than five (5) days after award of contract, Contractor is to submit to MARAD COTR a list of subcontractors and identify the work items for which each will be responsible.

## 5.4. PROGRESS MEETINGS

5.4.1. Progress meetings shall be conducted by the Contractor with MARAD COTR and ship's Officers on a weekly basis. All required weekly progress reports are to be delivered to MARAD COTR one day prior to the weekly progress meetings.

## 6. PERFORMANCE CRITERIA/DELIVERABLES

6.1. For each submittal, provide the COTR with three (3) copies of all charts, reports and schedules.

6.2. The first Production Chart and list of Subcontractors shall be prepared and submitted no later than five (5) days after award of contract.

6.3. The Production Charts and Condition-Report Status Report shall be amended, updated and submitted to MARAD COTR on a weekly basis.

## **LINE ITEM No. 014      SANITARY WASTE**

### 1. ABSTRACT

1.1. This item describes requirement for provide shore connections on ship's sewage shore connection and dispose in accordance to Federal, State and Local EPA Regulations.

### 2. REFERENCES

2.1. None

### 3. ITEM LOCATION / DESCRIPTION

3.1. LOCATION: Ship to Contractor's Facility.

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Provide hoses and fittings, make all connections, disconnections and reconnections, and remove and replace all piping, valves, fittings and equipment required to connect the vessel's sanitary system discharge to a Contractor-furnished sewage holding tank or a shore side sewage disposal system. This is required for removal of sanitary waste from the vessel on a 24 hour/day basis for the entire time that the ship is at the Contractor's facility. Sanitary waste shall be disposed of by the Contractor at his expense in accordance with all Federal, State and Local regulations.

6. PERFORMANCE CRITERIA / DELIVERABLE

6.1. None.

**LINE ITEM No. 015      PORTABLE TOILETS/TEMPORARY FACILITIES**

1. ABSTRACT

1.1. Provide and maintain portable toilets for ship's crews and individual unit for shipyard workers.

2. REFERENCES

2.1. None

3. ITEM LOCATION / DESCRIPTION

3.1. LOCATION: Contractor's facility next to the ship gangway areas.

4. NOTES

4.1. None

5. STATEMEN OF WORK REQUIRED

5.1. Provide and maintain locked two (2) portable toilets near the vessel's gangway area, for use by the ship's crew only, during any period in which the ship's MSD unit is not operational. Turn over the keys to Chief Engineer.

5.2. Provide and maintain portable toilets for shipyard workers use.

5.3. All the portable toilets shall be maintained, pumped, and cleaned on daily basis.

6. PERFORMANCE CRITTERIA / DELIVERABLES

6.1. None

**LINE ITEM No. 016      COMPRESSED AIR**

1. ABSTRACT

1.1. This item describes the requirement to provide compressed air onboard for ship services.

2. REFERENCES

2.1. None

3. ITEM LOCATION / DESCRIPTION

3.1. Contractor's facility and ship board engine rooms and deck machinery.

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Provide hoses and fittings to connect and supply clean, dry and oil-free compressed air to run machinery while ship's plant is secured. Maintain the compressed air at 100 psig of pressure and 300 cfm minimum of air flow.

6. PERFORMANCE CRITERIA / DELIVERABLE

6.1. Prove all the work to the satisfactory of Chief Engineer.

**LINE ITEM No. 0017 COOLING WATER**

1. ABSTRACT

1.1. This item describes the requirement to provide cooling water onboard for ship services.

2. REFERENCES

2.1. None

3. ITEM LOCATION / DESCRIPTION

3.1. Contractor's facility and ship board engine rooms.

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Upon arrival, provide all hoses and fittings, make all connections, disconnections and reconnections, and supply cooling water to the vessel's cooling water system. This cooling water will in turn be used for auxiliary machinery cooling including, but not limited to, reefers, air conditioning units, and compressors. Connection will be made via hose connections to the vessel's cooling water system piping as designated by Chief Engineer. The temporary cooling

water lines shall be maintained at 100 psig water pressure at the outlet/discharge end at a minimum water flow rate of fifty (50) gpm.

6. PERFORMANCE CRITERIA / DELIVERABLE

6.1. Prove all the work to the satisfactory of Chief Engineer.

**LINE ITEM No. 0018    TEMPORARY LIGHTING**

1. ABSTRACT

1.1. This item describes the requirement to provide adequate temporary lighting at all times in all work areas as directed by the COTR. Lighting will be sufficient for safe working and movement through affected areas.

2. REFERENCES

2.1. None

3. ITEM LOCATION / DESCRIPTION

3.1. Throughout the vessel.

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Contractor shall provide adequate temporary lighting at all times in all work areas as directed by the COTR. Lighting will be sufficient for safe working and movement through affected areas.

5.2. When tank inspection or other such work is required by the specification, lighting is to be installed and maintained to permit safe access and thorough inspections.

5.3. The fitting and cost of temporary lighting shall be included within the applicable specification item. This item will not be separately priced.

**LINE ITEM No. 0019    ELECTRIC MOTOR HEATING DEVICES**

1. ABSTRACT

1.1. This item describes the requirement to provide separate shore power circuit to supply heaters for fifty (50) electric motors.

2. REFERENCES

2.1. None

3. ITEM LOCATION / DESCRIPTION

3.1. Contractor's facility

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Provide labor, material and separate shore power supply circuits to connect and supply electricity to fifty (50) electric motors' heater as designated by 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 COTR.

**LINE ITEM No. 0020 STAGING**

1. ABSTRACT

1.1. This item describes requirement for furnish necessary staging to accomplish all work within this work package

2. REFERENCES

2.1. United States Occupational Safety & Health Agency Regulator.

3. ITEM LOCATION / DESCRIPTION

3.1. Contractor facility and onboard ship.

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Contractor shall furnish necessary staging to the approval of COTR to enable accomplishment of this work package. Staging shall comply with all applicable safety regulations.

5.2. Note: The cost of staging required for each specification item is to be included in the applicable Item and is not to be included under the cost of General Services unless required to provide the General Services listed herein.

**LINE ITEM No. 0021 OIL BOOM**

1. ABSTRACT

1.1. This item describes the requirement to provide and install oil boom around the ship while the ship in the contractor's facility.

2. REFERENCES

2.1. USCG Regulations.

3. ITEM LOCATION / DESCRIPTION

3.1. At contractor facility

4. NOTE

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Upon arrival of the vessel at the Contractor's facility, an oil boom shall be rigged to completely encircle the vessel. The boom shall be in good material condition and shall be maintained as such throughout the duration of the repair period. In the event that the repair availability includes a drydocking evolution, the oil boom shall be rigged around the drydock during the entire time the vessel is on drydock.

**LINE ITEM No. 0022 DELETED**

**LINE ITEM No. 0023 DRYDOCK VESSEL**

1. ABSTRACT

1.1. The intent of this work Item is for the Contractor to furnish a suitable drydock, certified by a recognized drydock certifying authority such as NAVSEA or ABS Tech to drydock the vessel.

2. REFERENCES

2.1. Ship's Drawing "GOLDEN BEAR" 085-6251366 Rev "D" Docking Plan

2.2. Ship's Drawing 1993-S28-3-1 UWILD Hull Marking

3. ITEM LOCATION / DESCRIPTION

3.1. None

4. NOTES

4.1. Government finished docking plan is to be used for arrangement of blocks.

4.2. COTR and vessel's Master are to be notified by Contractor of required draft for ballasting purposes at least 48 hours in advance of vessel entering shipyard.

4.3. Disposal of all debris and material generated by the repairs is to be disposed of at Contractor's expense in accordance with all applicable local, state and federal regulations.

5. STATEMENT OF WORK REQUIRED

5.1 General Requirements

5.1.1. The Contractor shall provide a suitable drydock, certified by a recognized drydock certifying authority, such as NAVSEA or ABS Tech. A copy of the certificate shall be

submitted upon request to MARAD South Atlantic Contracting Officer by the successful bidder prior to contract award, and the original shall be made inspection by the COTR. The certificate is to show issue date, expiration capability. A material condition survey report will not be accepted in lieu of a certificate.

5.1.2. Contractor shall furnish labor, material and special equipment necessary to drydock and undock the ship. The drydock facility's length overall shall be equal to or greater than the length of the ship overall, and the side wall clearance between the drydock walls and the ship's side will be no less than five (5) feet on each side.

5.1.3. Contractor shall calculate stability data. Determine maximum allowable trim based on the block loading and stability. Calculate maximum still water bending moment. Determine this to be within the ship's allowable stress.

## 5.2 Docking/Undocking Conference

5.2.1. Contractor shall conduct a docking/undocking conference at least one day prior to docking, undocking, and fleeting of the ship. This conference shall be attended by the ship's Master, Chief Mate, Chief Engineer MARAD COTR, and the Contractor's Dock Master who will be present during the time of the docking evolution. At this conference the Dock Master is to discuss the time of docking/undocking, tidal conditions, tug and pilot arrangements, line handlers, ship's crew responsibilities, and temporary services procedures.

5.2.2. Immediately before the docking/undocking conference the Contractor's Dock Master shall furnish the copy of a report indicating the following:

- a. Time of high tide and the amount of rise and fall and water over blocks.
- b. Tug and Pilot Arrangements
- c. Line handling
- d. Ship's staff responsibilities
- e. Weight control procedures
- f. Electrical shore power
- g. Electrical grounding arrangements
- h. Continuation of ship's general services
- i. Transfer of liquids to facilitate drydocking
- j. Communication arrangements between Dock Master, ship's crew, and MARAD COTR during the docking and undocking
- k. Pertinent and/or unusual conditions affecting drydocking
- l. Stability calculations/data required by this work item.

## 5.3 Docking Preparations

5.3.1. Contractor shall provide dockside line handlers upon arrival of ship at the yard, all necessary dockside and shipboard line handlers, and tugs for docking, undocking and any berth shifts until the departure of the ship from Contractor's facility.

5.3.2. Contractor shall sound all ship's tanks upon arrival at the Contractor's facility, prior to docking and undocking, and within twenty-four (24) hours prior to redelivery of the vessel.

5.3.3. Just prior to docking, take tank soundings on the ship. Soundings shall be taken in a joint

liquid in Contractor and stability survey between the Contractor and a ship's crew representative. The quantities of the tanks are to be agreed upon prior to the start of any ballasting operations. shall determine ballast requirements to drydock the ship with allowable trim conditions.

- 5.3.4. The Contractor shall review ship's ballast conditions, trim weights, drafts prior to drydocking the ship to assure that all safety conditions have been met.
- 5.3.5. The Contractor shall transfer fuel oil and/or ballast water to trim the vessel so as to insure against placing any undue stress or strain on the vessel. The ship's crew MAY be available to assist Contractor with transfer operations. However, Contractor remains fully responsible for all transfers as required for drydocking. Contractor shall be responsible storage of fuel oil and for disposing of all non-fixed ballast necessary to properly drydock the vessel. Disposal is to be in accordance with all Federal, State, and Local regulations. All water ballast shall be removed by the Contractor shall be replaced with fresh water only and shall be loaded in compliance with the vessel's stability and strength requirements.
- 5.3.6. If for the convenience of the Contractor, the ship is drydocked at a displacement less than that of the ship's arrival condition, all weights including ballast, lube oil, fuel oil, fixed ballast, and stores which have to be removed in order to facilitate the drydocking of the ship will be for the cost of the Contractor. All such removed weights shall be stored by the Contractor for the duration of the drydocking period and returned to their respective locations at no additional cost.
- 5.3.7. The Contractor shall prepare the drydock and set the keel blocks. Location of keel blocks shall be in accordance with the ship's requirements with reference to the drydocking plan. Height of blocking shall be a minimum of four (4) feet high. Position blocks so that propellers, rudders, and other appurtenances on the surface of or protruding from the hull will not be damaged and will be accessible for removal and repair. Insure that no tank drain plugs, transducers, or areas where new installations will be made are covered.
- 5.3.8. Blocking shall be composed of a combination of either concrete or steel with hardwood upper part blocks, fitted with 2" thick soft cap blocks. Blocking shall be secured and shall be cribbed to prevent shifting. The term "hardwood", for the purpose of this item, includes: White Oak, California Laurel, Oregon Myrtle, Iron Bark, Blue Gum, American Rock Elm or Preserved Red Oak. Woods acceptable for soft caps are: Douglas Fir, Tamarack, Long Leaf Pine or Hemlock.
- 5.3.9. The normal life span for hardwood blocking is about ten (10) years. Nevertheless, blocking showing evidence of excessive crushing, warping, cracking, rotting or damage from dogging and unequal shrinkage or deterioration to an extent of no longer being capable of supporting a prescribed load over full bearing area is not acceptable and shall be replaced.
- 5.3.10. A dock inspection including inspection of the prepared blocking shall be jointly conducted with the, Chief Engineer, Ship's Master, and or, Chief Officer, Contractor's Dock Master and supervisory personnel. Blocks shall be inspected for heights, leveling, shaping, spacing and securing of the drydock hardware to its structure. Dock inspection shall be accomplished in daylight at least four (4) hours prior to flooding the drydock. Immediately prior to flooding the dock, accomplish a final block inspection with the ship's Officers and MARAD COTR.

#### 5.4. Docking Evolution

- 5.4.1. The Contractor shall ensure that blocking has been properly set to clear ship's underwater equipment prior to setting the ship on the blocks.
- 5.4.2. Immediately after the ship is drydocked, inspect the fit of the blocks. Provide necessary shimming between blocking and hull in the event of hull movement due to ballasting or shifting of ship's load.
- 5.4.3. If the ship is found off the centerline on the keel blocks by more than six (6) inches, the Contractor shall re-dock the ship and place the ship on the centerline.
- 5.4.4. Shift the keel blocks as found necessary to permit examination of all peak and double bottom tank drain plugs and fathometer transducers by the COTR.
- 5.4.5. Electrically connect ship's hull when in drydock at the bow and stern of the ship with cables (minimum 500,000 circular mills) and ground connection in drydock for protection against lightning and other static charges. The static ground leads shall be connected to the ship before any electrical currents are turned on to the ship. Connection shall be made before the ship is free of the water.

#### 5.5. Requirements on Dock

- 5.5.1. Immediately upon docking, the entire underwater body of the ship shall be high pressure water washed with fresh water at 3,000 psi and hand scraped to remove all foreign material, marine growth, and loose paint. At the completion of the cleaning, allow for an inspection of the hull by the ABS Surveyor, the US Coast Guard Marine Inspector, ship's officers and MARAD COTR.
- 5.5.2. Contractor shall provide necessary temporary services and equipment such as lighting, rain coats, rubber boots, staging and cherry picker with operator to assist COTR, Ship's Officers, Regulatory Body Inspectors and U.S. Government Technical Inspectors to perform underwater hull and coating inspections.
- 5.5.3. The Contractor shall provide a numbering system to account for any temporary plugs inserted into under water hull penetrations during drydock work. Each plug shall be assigned a unique number. Prior to undocking, these plugs shall be removed and accounted for and a report made to the COTR.
- 5.5.4. The Contractor shall in no case transfer ballast or fuel while the ship is in dock without specific permission of the COTR and the Dock Master. Any water ballast removed by Contractor for drydocking shall be replaced by the Contractor with clean, fresh water. The ship shall be refloated, to the greatest extent practicable, at the docking drafts and displacement.
- 5.5.5. Contractor shall mask propeller shaft gland seal boxes, propellers, rudder stock gland and rudder pintles with heavy canvas and plastic prior to any sandblasting, waterblasting, hot work or other pertinent work around the stern. These temporary protections shall be restored after performance of related work and removed prior to undocking.

#### 5.6. Undocking

- 5.6.1 Upon completion of drydocking work items as set forth in the basic specification, the Contractor shall notify ABS and USCG 24 hours prior to undocking. Provide necessary tugs, line handlers and undock the ship.
- 5.6.2. Prior to undocking, ensure that the dock is free of all debris and that all work accomplished during the drydock period, such as sea valves, shaft seals and all other hull penetrations are proven watertight by high pressure fresh water hose testing or other means acceptable by the COTR and regulatory bodies.
- 5.6.3. Trial flood the drydock at a date and time mutually agreeable to the Contractor and the COTR. Stop flooding the drydock after hull penetrations are submerged, but before the ship lifts off the blocks. Perform a watertight integrity inspection of all Contractor's work affecting the watertightness of the hull and on hull penetrations and sea valves below the water level, in company with the ABS Surveyor, USCG Marine Inspector and the COTR. Re-drydocking to correct deficiencies in Contractor's work shall be accomplished at Contractor's expense. Upon satisfactory completed of inspections and when safe to float the ship continue flooding the drydock and undock the ship.

#### 5.7. Docking Plan/Drawing Update

Provide service of Naval Architect(s) to make surveys on the drydock and update the existing "GOLDEN BEAR" 085-6251366 Docking Plan for STATE OF MAINE use on next drydocking. The updated docking shall be submitted to MARAD for approval. Upon completion, provide and deliver six (6) (one original and five copies) hard copy and one (1) electronic copy in PDF format of the updated STATE OF MAINE Docking Plan to MARAD COTR.

### 6. PERFORMANCE CRITERIA/DELIVERABLES

6.1. Prepare and submit the following documents to MARAD COTR.

- a. Docking and paint reports
- b. MARAD Drydock Report (Form MA-57)
- c. Propeller and stern bearing and seal reports
- d. Six (6) hard copies of updated/revised Docking Plan
- e. One (1) copy, electronic PDF format of updated/revised Docking Plan in CD

6.2. Prove all work to the satisfaction of COTR and ship's Officers.

### **LINE ITEM No. 0024 UNDERWATER HULL PREPARATION AND COATING**

#### 1. ABSTRACT

- 1.1. The intent of this item is to prepare and coat the vessel's underwater hull (approximately 43,000 ft<sup>2</sup>) in good order as detailed hereafter.

#### 2. REFERENCES

- 2.1. MARAD Coating Guidelines
- 2.2. Steel Structures Painting Council – Painting Manual, Vol. 1 & 2 (Latest Edition)
- 2.3. Item 010 "Painting Guideline"

### 3. ITEM LOCATION/DESCRIPTION

- 3.1. Ship hull from keel up to Deep Load Line including flat bottom, bilges, bilge keels, hull appendages, sea chests and grating plates, stern section, rudders, bilge keels , etc.,

### 4. NOTES

- 4.1. Contractor's attention is directed to Item 010 "Painting Guideline" of the Specifications. All requirement specified in Item 101 is applied with this Item.
- 4.2. Water ballast tanks shall be drained to improve the blasting and coating conditions.
- 4.3. Ultra high pressure Hydro blast will be accepted in lieu of grit blast. Contractor to provide same preparation conditions as noted.
- 4.4. Contractor's shall prepare and protect the ship's equipment and internal surfaces in accordance to Item 101 requirements.
- 4.5. All new paint (coating material) will be provided by Contractor as Contractor Furnished Material.

### 5. STATEMENT OF WORK REQUIRED

- 5.1. Contractor shall supply staging and/or scaffolding required to complete this item, including erection and dismantling of same.
- 5.2. The total estimated surface area of under water hull is approximately 43,000 ft<sup>2</sup> for preparation and coating include all sea chest internals, grating plates, rudders, bilge keels, etc. The estimated area to be prepared and painted is given for reference only and it is the responsibility of the Contractor to search out and take his own measurements.
- 5.3. Immediately after vessel is drydocked, commence washing the hull from the vessel's keel up to and including the Deep Load Line mark, using high-pressure fresh water (3,000 psi minimum pressure at the nozzle) to remove all loose coatings and marine growth as specified in Item 201, "Statement of Work" 5.5.1.
- 5.4. Areas for washing include but are not limited to all sea chest internals, grating plates (plates are to be removed prior to washing), shell penetrations, rudders, propellers, etc.,
- 5.5. Where found, areas of oil and/or grease accumulation shall be washed clean and degreased to SSPC-SP1 prior to fresh water wash down.
- 5.6. Upon completion of high pressure fresh water washing, prepare surface for coating as prescribed herein to the satisfaction of MARAD COTR and Paint Manufacturer's Technical Representative.
- 5.7. Contractor shall spot blast/high pressure water jet blast as recommended by the Paint Manufacturer Representative and approved by MARAD COTR. All mechanically damaged, corroded and oxidized areas shall be grit blasted to near white metal, SSPC-SP10. Estimate 15% of square footage on underwater hull and flat bottom surfaces may require blasting to SSPC-SP10. Areas to be spot blasted will be identified and the total square footage shall be agreed to prior to the start of blasting.

- 5.8. During all blasting operations, all inlet and outlet openings to the vessel (including ventilation inlets and exhausts and tank vents) shall be sealed to prevent the intrusion of grit, dust, paint, etc. Any doors to be used shall be protected with double-curtain baffles. Suitably protect all machinery, lights, antennas, electrical cables and connections, piping, life rafts, and rescue boat. Industrial foam filter material shall be installed on the intake and exhaust ends of any ventilation system in use. These filters are to be removed and replaced when air flow becomes restricted. Inspect the integrity of all protective coverings at the beginning of each blasting shift. Notify MARAD COTR immediately if contamination occurs. All areas in which grit and contaminants enter are to be cleaned to the satisfaction of the COTR. This includes internal and external spaces, tanks, and voids.
- 5.9. During blasting operations, removal of temporary coverings shall not be made without the permission of the COTR.
- 5.10. Painting won't be permitted during blasting of any other part of the vessel.
- 5.11. Upon completion of all blasting and spot coating, and prior to application of build up (full) coatings, Contractor shall blow dry with compressed air entire hull, from keel to rail, including associated bulwarks, at 1200 psi to remove all resultant dirt, dust and contaminants.
- 5.12. Upon approval of the COTR and the paint technical representative, all areas from the keel up to the Deep Load Line mark shall be coated as follows:
- 5.12.1. Spot blast to near white metal (SSPC-SP10) and feather in corroded, damaged and failed coating areas. Approximately 6,450 square foot (15% of the entire underwater hull surfaces).
- 5.12.1.1. Touch up near white metal blasted areas with:
- One coat, Amercoat 235, Cat. # 235-K-1642, Buff, DFT 5.0 mils
  - One coat, Amercoat 235, Cat. # 235-K-9903, Oxide, DFT 5.0 mils
  - One coat, Amercoat 135, Cat. # 235-K-7821, Black, DFT 5.0 mils
  - One coat, Amercoat 214, Cat. # 214-S-7061, A/F Red, DFT 3.0 mils
  - One coat, Amercoat ABC #3, Black, Cat. # 283-S-5415, DFT 5.0 mils
  - One coat, Amercoat ABC #3, Black, Cat. # 283-S-5416, DFT 5.0 mils
- 5.12.1.2. Apply over ENTIRE underwater hull including but not limited from keel up to Deep Load Line including flat bottom, bilges, bilge keels, hull appendages, sea chests and grating plates, stern section, rudders, bilge keels , etc.,:
- One full coat, Amercoat, ABC # 3, Cat. # 283-S-5415, Black, DFT 5.0 mils
  - One full coat, Amercoat, ABC # 3, Cat. # 283-S-5416, Red, DFT 5.0. mils
- 5.12.1.3. Underwater markings including draft marks, tank boundaries, bulbous bow markings, UWILD markings are to be solvent cleaned, fresh water washed and painted white. Below the water line shall be finish coated with two (2) coats Amercoat Bar-Ox 450, White, Cat. # 450-X3501 at DFT of 5.0 mils each coat.

5.12.2. Sea Chests:

5.12.2.1. Remove sea-chest gratings and blast interior of sea chests to a SSPC-SP 10 (near white) finish and after inspection by USCG, ABS and COTR, coat interiors with underwater coating system prescribed for underwater hull. Gratings shall be thoroughly cleaned and fully coated with same underwater hull coating system. After anodes have been replaced, gratings are to be reinstalled. Grating fasteners are to be renewed as original. Secure fasteners using monel wire.

5.13. Provide services of Naval Architect(s) and Photographer(s) to make joint surveys with ABS Surveyor(s), USCG Inspector(s), MARAD COTR and Ship's Officers on drydock to update the UWILD marking drawings and produces video to clearly show all the UWILD markings. The UWILD marking drawing and video shall be approved by ABS and USCG onsite Surveyor(s) and Inspector(s).

6.0. PERFORMANCE CRITERIA/DELIVERABLES

- 6.1. Prove all the work to satisfaction of COTR and Ship's Officers.
- 6.2. Six (6) copies (original + five) of USCG/ABS approved updated/revised UWILD marking drawings.
- 6.3. Four (4) copies of under water hull marking video in VCD/DVD format.

**LINE ITEM No. 0025 TOP SIDE HULL PREPARATION AND COATING**

1. ABSTRACT

1.1. The intent of this item is to prepare and coat the vessel's freeboard from the Deep Load Line to Weather Deck, 01 level top of the bulwarks (approximately 24,000 ft<sup>2</sup>) in good order as detailed hereafter.

2. REFERENCES

- 2.1. MARAD Coating Guidelines
- 2.2. Steel Structures Painting Council – Painting Manual, Vol. 1 & 2 (Latest Edition)
- 2.3. Item 101 “Painting Guideline”

3. ITEM LOCATION/DESCRIPTION

3.1. Ship's hull from Deep Load Line to 01 Deck, top of the bulwarks.

4. NOTES

- 4.1. Contractor's attention is directed to the Item 101 “Painting Guideline” of the Specifications.
- 4.2. Ultra high pressure Hydro blast will be accepted in lieu of grit blast. Contractor to provide same preparation conditions as noted.
- 4.3. All new paint (coating material) will be provided by Contractor as Contractor Furnished Material.

## 5. STATEMENT OF WORK REQUIRED

- 5.1. Contractor shall supply staging and/or scaffolding required to complete this item, including erection and dismantling of same.
- 5.2. The total estimated surface area of top side hull from Deep Load Line up to 01 deck bulwark is approximately 24,000 ft<sup>2</sup> for preparation and coating. The estimated area to be prepared and painted is given for reference only and it is the responsibility of the Contractor to search out and take his own measurements.
- 5.3. Contractor shall remove the Academy's Website address [WWW.MMA.EDU](http://WWW.MMA.EDU) decals on both Port and Starboard side mid-ship hull, removal must very careful not to disturb the existing hull coating with low heat gun. Contractor shall record the size and material of the decals; use it to order new decals with same material, color and size of the letters/alphabets. Upon the top side hull coating is completed; install the new decals on the same locations.
- 5.4. Wash the entire topside hull surfaces from the vessel's Deep Load Line mark to 01 Deck bulwark top, using high-pressure fresh water (3,000 psi minimum pressure at the nozzle) to remove all loose coatings and foreign matters which are intended to be spot blasted so as to avoid embedding any chlorides into the coating when blasting.
- 5.5. Where found, areas of oil and/or grease accumulation shall be washed clean and degreased to SSPC-SP1 prior to fresh water wash down.
- 5.6. Upon completion of high pressure fresh water washing, prepare surface for coating as prescribed herein to the satisfaction of MARAD COTR and Paint Manufacturer's Technical Representative.
- 5.7. Contractor shall spot blast/high pressure water jet blast as recommended by the Paint Manufacturer Representative and approved by MARAD COTR on various areas as directed by MARAD COTR. All mechanically damaged, corroded and oxidized areas to near white metal, SSPC-SP10. Estimate 15% of square footage on topside hull surfaces may require blasting to SSPC-SP10. Areas to be spot blasted will be identified and the total square footage shall be agreed to prior to the start of blasting.
- 5.8. During all blasting operations, all inlet and outlet openings to the vessel (including ventilation inlets and exhausts and tank vents) shall be sealed to prevent the intrusion of grit, dust, paint, etc. Any doors to be used shall be protected with double-curtain baffles. Suitably protect all machinery, lights, antennas, electrical cables and connections, piping, life rafts, and rescue boat. Industrial foam filter material shall be installed on the intake and exhaust ends of any ventilation system in use. These filters are to be removed and replaced when air flow becomes restricted. Inspect the integrity of all protective coverings at the beginning of each blasting shift. Notify MARAD COTR immediately if contamination occurs. All areas in which grit and contaminants enter are to be cleaned to the satisfaction of the COTR. This includes internal and external spaces, tanks, and voids.
- 5.9. During blasting operations, removal of temporary coverings shall not be made without the permission of the COTR. Painting won't be permitted during blasting of any other part of the vessel.

Upon completion of all blasting and spot coating, and prior to application of build up (full) coatings, Contractor shall blow dry with compressed air entire hull, from keel to rail, including associated bulwarks, at 1200 psi to remove all resultant dirt, dust and contaminants.

Upon approval of the COTR and the paint technical representative, all areas from the Deep Load Line mark up to 01 Deck including bulwarks and its top areas shall be coated as follows:

5.11.1. Apply a MARAD Coating Guidelines approved zinc rich epoxy primer anti-corrosive system by airless spray to the spot blasted areas at 3-4 mils DFT minimum. After this coating has properly dried and cured, apply 2<sup>nd</sup> coat of same primer in slightly different color with brush to all edges, corners, ladder rungs, brackets, knife edges, rat holes, rough welds, etc. Also, any areas of low primer DFT readings are to be brought up to 3-4 mils minimum DFT specification

5.11.2. 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 were spot blasted cleaned. 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 than the primer or the first coat of epoxy.

5.11.3. After the stripe coats are properly dried and cured, Airless spray apply one (1) coat of Ameron high solids epoxy intermediate coat at 5 mils DFT minimum to the areas were spot blast cleaned surfaces.

5.12. After the intermediate coat is dried and cured, apply a water based cleaner (PREP 88) to all top side hull exterior surfaces above the deep load line to 01 deck bulwarks. Approximately 24,000 square feet. Then, high-pressure (3000 psi) fresh water wash the side shell areas were cleaned with PREP 88 cleaner. Contractor must ensure to remove all residual traces of the PREP 88 cleaner.

5.13. When the high-pressure wash surfaces were dried and clean, apply a complete Ameron two Component PSX 700 Engineered Polysiloxane coating system onto the entire cleaned top side hull surfaces from deep load line to 01 deck bulwarks. One full coat of Amerlock # 2 High Solids Epoxy Barrier at 4 mils DFT minimum, approximately 24,000 square feet. After the 1<sup>st</sup> full coat paint is dried and curried; apply one full coat of PSX 700 Engineered Polysiloxane in "Holland America Blue" at 5-7 mils DFT minimum, approximately 24,000 square feet.

#### 5.14. HULL MARKINGS

Draft marks, tank numbers and tank boundaries, propeller mark, home port, vessel names, UWILD markings, ABS Load Line Marks, etc., shall be solvent cleaned, fresh water washed and bush painted 2 coats of Amercoat 229C, white.

### 6.0. PERFORMANCE CRITERIA/DELIVERABLES

6.1. Prove all the work to satisfaction of COTR and Ship's Officers.

6.2. Prepare and delivery Paint Manufacturer's Representative and Contractor "Paint Report" with one (1) original and two (2) copies to COTR upon the paint job completed.

### **LINE ITEM No. 0026 RENEW ZINC ANODES**

#### 1. ABSTRACT

1.1. Contractor to provide labor and material to renew all Zinc anodes on hull.

#### 2. REFERENCES

2.1. Docking Plan/Drawing 085-6630081

3. LOCATION / DESCRIPTION

- 3.1. Location/Quantity: Underwater hull: 48 zinc anodes
- 3.2. Description: ZHS-23 rectangular sacrificial zinc anodes, 6" x 6" x 1-1/4" with bolt mounts.

4. NOTES

- 4.1. Item to be completed in conjunction with drydocking.
- 4.2. Contractor is to have a Certified Marine Chemist confirm all tanks and spaces that will be heated while the existing zinc anodes are removed or the new anodes are welded in place are safe for hot work and issue a "Safe for Hot Work" certificate in accordance with Specification "Gas Free" item. If necessary, Contractor to provide ventilation required to achieve a gas free condition. Contractor is to maintain gas free status for the duration of the work. The tanks are to be tested a minimum of at least once every 24 hours, with a new certificate issued.
- 4.3. Contractor shall comply with requirements for weld procedures and welder qualifications in accordance with ABS and USCG Requirements item.
- 4.4. All the existing anodes are welded to ship's hull with steel strap bar. The new anodes shall be bolted to hull with new 316 stainless steel bolts, washers and nuts.

5. STATEMENT OF WORK REQUIRED

- 5.1. Crop and remove all the existing hull water anodes by grinding off from welded mounting strap. Clean and prepare the areas for install new stainless steel anode mounting bolts, provide and install new 316 Stainless Steel mount studs by welding, size of the new anodes' mounting studs shall be as per anodes' manufacturer's recommended size. Upon the stud installed, cover the threads and spot blasting clean all the anodes installation areas to SSPC-10, Near White metal surfaces, prepare and coat all the cleaned surfaces in accordance with Item 202. "Underwater Hull Preparation and Coating" Work Requirement.
- 5.2. Provide and install new zinc anodes with new 316 Stainless Steel washers and nuts.
- 5.3. A complete hull painting system is required beneath all anodes. Care shall be taken to keep the outer surfaces of the anodes free of paint.
- 5.4. Hull paint system destroyed in way of straps when removing or attaching zinc anodes shall be repaired.

6.0. PERFORMANCE CRITERIA/DELIVERABLE

- 6.1. Prove all the work to the satisfaction of COTR and Ship's Officer.

**LINE ITEM No. 0027 CATHODIC PROTECTIONS**

1. ABSTRACT

1.1. The intent of this item is to provide the manufacturer service engineer to inspect and service the ship's CAPAC Cathodic Protection System while the ship is drydock. Reset the system and place the system back in service when the ship is undrydocked and float in water.

## 2. REFERENCES

2.1. CAPAC Cathodic Protection Instruction Manual

## 3. ITEM LOCATION/DESCRIPTION

3.1. Manufacturer: Electrochemical  
2 Milltown Court  
Union, New Jersey 07083

3.2. Controllers: 1 – 34660 MOD III MAG Amp Controller  
1 – SL Auto Controller/Power Supply

3.3. AG/AGCL Reference Electrode Assembly: 1 – Installed at FR. 13-1/2, Starboard,  
1 – Installed at FR. 170-1/2, Port

3.4. PT/PA Anode Assembly: 1 – Installed at FR 33-1/2, Port  
1 – Installed at FR 33-1/2, Starboard  
1 – Installed at FR 150-1/2, Port  
1 – Installed at FR 150-1/2, Starboard.

## 4. NOTE

- 4.1. All services on Reference Electrode and Anode Assembly shall be done while the ship in drydock.
- 4.2. Contractor shall arrange and provide the services of manufacturer service engineer(s) to check and service the Reference Electrode and Anode Assemblies on drydock and start the system when the ship is undrydocked and floating on water.
- 4.3. The Cathodic dielectric shields must be protected with suitable protective covers to avoid damage and contamination from all blasting and coating efforts being performed in surrounding areas during drydock availability.

## 5. STATEMENT OF WORK REQUIRED

- 5.1. Provide labor, material, equipment and services of manufacturer service engineer(s) as necessary to complete all work requirement specified herein with this work Item.
- 5.2. Once the ship is on drydock, erect staging/service platforms on drydock on each location of Reference Electrode and Anode. Arrange and provide services of manufacturer service engineer(s) to check and service the Reference Electrodes and Anodes, make repairs and adjustments as necessary to place the system in good working order. Check the anodes' dielectric shields for cracks and serviceable. Prepare and submit condition report to MARAD COTR within 24 hours after the service engineer inspection.
- 5.3. When directed by MARAD COTR, provide labor and equipment to remove all the anodes' dielectric shield mastic material (Coal Tar Epoxy or Tarset) under the direct supervises of the

manufacturer's service engineer(s). Blast clean the areas to SSPC-10 "Near White Metal Surfaces", after inspected by MARAD COTR and Service Engineer(s), the cleaned areas to be applying a full coat of Capastic (coating material shall be purchased from the manufacturer). Before the Capastic has cured, apply successive coats of Coal Tar Epoxy or Tarsset to shaded areas. Note: If Capastic has cured it MUST be sanded before applying Coal Tar Epoxy or Tarsset, Coal Tar Epoxy or Tarsset can be started while Capastic applying in progress. Final thickness of Coal Tar Epoxy or Tarsset shall be 22 mils minimum.

- 5.4. If it is determined that the dielectric shield is not in need of replacement or repair the Contractor shall provide a full credit for the work not performed.
- 5.5. Prior to undocking the vessel, contractor shall remove all the staging/perform and protective covers and left the system is ready for start up.
- 5.6. When the ship is floating in water, provide the services of manufacturer service engineer to start up the system and perform final adjustment to place the system in good working condition.

#### 6.0. PERFORMANCE CRITERIA / DELIVERABLE

- 6.1. Prove all the work to the satisfaction of MARAD and Ship's Officers.
- 6.2. Submit service engineer(s) service reports to MARAD COTR.

### **LINE ITEM No. 0028 RUDDER AND STERN FRAME INSPECTION**

#### 1. ABSTRACT

- 1.1. The intent of this item is to perform Regulatory Body inspections on rudder and stern frame.

#### 2. REFERENCES

- 2.1. ABS Rule Requirement for Survey After Construction.

#### 3. ITEM LOCATION/DESCRIPTION

- 3.1. Underwater, stern area. one rudder. Port and Starboard Bilge Keels.

#### 4. NOTES

- 4.1. This item to be completed in conjunction with drydocking.
- 4.2. All fittings, calibrated gauges, etc. necessary for air testing shall be furnished by the Contractor.
- 4.3. All testing shall be performed in the presence of USCG, ABS, and COTR.
- 4.4. Secure and lock out / tag out all electrical power to Steering System prior to start of work.

4.5. This item requires that extreme cautions be taken to protect rudders and rudder stocks from any and all damage and to ensure that the ingress of contaminants from the hull cleaning/sandblasting/coating work does not have an adverse impact on this repair item.

## 5. STATEMENT OF WORK REQUIRED

- 5.1. The contractor shall furnish all labor and materials to accomplish the following work.
- 5.2. Furnish and erect staging to facilitate access to the rudder and stern frame for examination. Remove vent and drain plugs from the rudder and stern frame and drain all water and preservative from within. The Contractor shall collect and dispose of all drained liquid in accordance with current local, state and federal regulations.
- 5.3. Furnish and connect a steam supply to the rudder vent connection and steam out the rudder internals. Continue steaming out until clear condensate is observed draining from the rudder. Collect and dispose of all drained liquid (including preservative) and condensate in accordance with current local, state and federal regulations. Have rudder certified Safe for Men - Safe For Hot Work by a Certified Marine Chemist.
- 5.4. Completely clean and visually inspect rudders.
- 5.5. Disassemble the rudder post stuffing box and remove all packing. Clean the exposed areas on rudder post, rudder post sleeve and rudder post bushing.
- 5.6. Thoroughly examine the rudder and stern frame in the presence of the MARAD COTR, Ship's Officers, ABS surveyor(s) and USCG inspector(s). Mark any defects found. Examination shall include, but not be limited to, the following:
  - a. All accessible areas of the stern frame and rudder (rudder fairwater plates shall be removed to facilitate access)
  - b. Pintle(s)
  - c. Gudgeon(s)
  - e. Carrier bearing
  - f. Steady bearings
  - h. Rudder stock and sleeve
  - i. Rudder stock bushing
  - j. Pintle bushing(s)
- 5.7. Measure the rudder post bushing and pintle clearances in the presence of MARAD COTR. Clearances shall be taken at four (4) points of bushing periphery, spaced 90° apart. When directed by the MARAD COTR, furnish and install new packing, of the same type and size as original, in the rudder post stuffing box. Reassemble gland in good order. Submit a report of rudder post bushing and pintle clearances to the COTR and the ABS surveyor.
- 5.8. Furnish and install suitable fittings to accomplish a pressure test of the rudder with air. Test pressure shall be 1 1/2 psig. The testing apparatus shall be set-up such that there are two (2) connections: one for applying air to the rudder and the second for releasing air pressure. The test pressure gauge shall be in current calibration and shall be installed at the outlet connection. In addition, a relief valve or U-tube shall be installed, as part of the test rig, to prevent accidental over pressurization of the rudder. Any repairs required as a result of examination and testing

shall be covered by a Delivery Order. If repairs are required, the rudder shall be similarly retested at the completion of repairs. The rudder shall be proven tight by holding the test pressure for 10 minutes, with the air supply cut-off, with no pressure drop. Air tests shall be witnessed by the MARAD COTR, ship's officers and the Regulatory Bodies.

5.8. At the completion of final testing, furnish rust preventative compound in accordance with MARAD Coating Guideline, Latest Revision, and fill the rudder and stern frame to completely coat their internals. Drain the compound from the rudder and stern frame. Collect and dispose of the compound in accordance with current local, state and federal regulations. Reinstall the rudder and stern frame vent and drain plugs, access and fairwater plates. Remove all staging and equipment connected with this item and leave in a ready to use condition. The MARAD COTR will witness the filling and draining of the rudder and stern frame with preservative and the installation of the vent and drain plugs.

## 6. PERFORMANCE CRITERIA/DELIVERABLES

6.1. The Contractor shall prepare and submit a Rudder Bearing Inspection Report with clearance readings to MARAD COTR.

## **LINE ITEM No. 0029      PROPELLER SHAFT WEARDOWN READINGS**

### 1. ABSTRACT

1.1. The intent of this work Item is to take and record stern bearing wear down readings at the propeller shaft outboard seal housing.

### 2. REFERENCES

- 2.1. Manufacturer's Technical Manual
- 2.2. ABS Rule Requirements for Survey After Construction
- 2.3. USCG 46CFR

### 3. LOCATION / DESCRIPTION

- 3.1. Ship stern area, Contractor's drydock
- 3.2. Manufacturer Data: Mfr: John Crane Lips  
Type: 670 MK II
- 3.3. Quantity: Two (2) set of reading

### 4. NOTE

None

### 5. STATEMENT OF WORK REQUIRED

Immediately upon drydocking, erect staging around the stern tube area to provide suitable access to perform the following:

Wash off welds holding the propeller rope guard. Remove the rope guards, place on dock, and retain

for reinstallation. Open the vent and the drain plug on the tailshaft aft seal box. Drain oil to a container. The oil will either be disposed of by the Contractor or retained as a sample as directed. If disposed of, disposal will be in accordance with all Federal, State, and Local regulations.

Obtain the vessel's wear-down gauge from the Chief Engineer. Take and record the tailshaft wear-down readings on top and on bottom in presence of the ABS Surveyor, USCG Inspector, ship's officer(s) and MARAD COTR. Reinstall the removed plugs. Record the reading on the record card maintained in the wear-down gauge case. Return the gauge to the Chief Engineer. Submit a written report in four (4) typewritten copies to the MARAD noting the previous wear-down readings and the current readings.

Following reinstallation of the tailshaft and the propeller, wear-down readings are again to be taken in the presence of the ABS Surveyor, USCG Inspector, ship's officers and MARAD COTR. Four (4) copies of the wear-down report shall again be submitted to the MARAD COTR, noting any substantial deviation from the previously recorded readings. The wear-down report shall be conveyed immediately to the MARAD COTR. THE REPORT SHALL BE SUBMITTED PRIOR TO REFLOODING THE DRYDOCK.

Refit plugs where the wear-down gauge was fitted. Reinstall the vent and drain plugs as original and refill the seal with vessel-furnished new oil. Refit and reweld the propeller rope guard.

Coat any disturbed areas in accordance with the vessel's underwater hull painting system.

## 7. PERFORMANCE CRITERIA / DELIVERABLE

Prove all work to the satisfaction of MARAD COTR and ship's officers

Prepare and submit wear-down reading reports to MARAD COTR.

## **LINE ITEM No. 0030      CONTROLLABLE PITCH PROPELLER MAINTENANCE**

### 1. ABSTRACT

1.1. The intent of this work Item is to perform a thorough cleaning and inspection of the vessel's controllable pitch propeller while the vessel is on drydock. Provide materials necessary for and perform renewal of the propeller blade seal rings. All the work shall be under the supervision of a Contractor-furnished manufacturer's service engineer.

### 2. REFERENCE

2.1 ABS Rules Requirements for Survey after Construction

2.2. LIPS Instruction Book

2.3. LIPS Drawing W000102491 "Arrangement of Shafting"

### 3. LOCATION/DESCRIPTION

3.1. Contractor's drydock facility at the vessel's stern area.

3.2. Manufacturer Data:

3.2.1 Mfr: LIPS

3.2.2	Propeller diameter:	5000 mm
3.2.3	Number of blades:	4
3.2.4	Hub type:	D/1190
3.2.5	Direction of rotation:	Counterclockwise
3.2.6	Blade material:	NiAl bronze
3.2.7	Hub material:	NiAl bronze
3.2.8	Blade surface finish:	Class 1

3.3. Quantity: One (1) Propeller with four (4) blades.

#### 4. NOTE

4.1. Contractor is to note that this vessel has one LIPS CPP Propeller System..

4.2. All work associated with this item to be supervised by LIPS propeller manufacturer's service representative scheduled by Contractor and provided at Contractor's expense.

4.3. This item to be performed in conjunction with drydocking, tailshaft inspection, stern tube seals overhaul and rudder examination.

4.4. This item requires that extreme cautions be taken to ensure that the ingress of contaminants from the hull cleaning/sandblasting/coating work does not have an adverse impact on this repair item.

#### 5. GOVERNMENT FURNISHED MATERIAL/EQUIPMENT/SERVICE

5.1. None

#### 6. STATEMENT OF WORK REQUIRED

##### 6.1 Propeller Inspection and Cleaning

All work shall take place under the direction of a Contractor-provided manufacturer's service engineer. All materials shall

Immediately upon drydocking, erect staging around the vessel's stern area to provide access to perform work on the propeller.

Provide assistance to the manufacturer's service engineer in conducting a complete inspection of the propeller physical and operational condition. In the presence of ABS, USCG, MARAD COTR and Ship's Officer(s), perform a pressure test on the propeller for checking of the seal condition. The hydraulic system is to be pressurized. The propeller blades are to be cycled from full ahead to full astern and back again a sufficient number of times to permit a thorough inspection of the propeller hub and all blades for hydraulic leaks and to verify proper operation. Hydraulic pressure shall remain on the propeller for an extended period of up to six (6) hours to allow for thorough checking of the seals. Operationally check the hydraulic and control system from all control stations. Verify that the actual propeller pitch coincides with marking on the oil distribution box and on the engine control room and bridge consoles.

Thoroughly clean the propeller to remove all marine growth to the satisfaction of the manufacturer's Service engineer and the MARAD COTR. The propeller shall be polished using 3M polishing discs or equivalent. **Use of grit, wire brush tools, or abrasive grinding tools will not be allowed.**

##### 6.2 Bearing Ring Clearances

Check the bearing ring clearance on each blade. This will require special lifting procedure as recommended by propeller manufacturer. In succeeding fashion, position each blade in the vertical position for conducting a pull test on the blade. Using a dial indicator, measure the allowed movement in the bearing ring when pulling upward with a chain fall. This is to be done in two (2) positions, forward and aft, for each blade. Furnish a report of these clearances in four (4) typewritten copies immediately to the MARAD COTR.

### 6.3 Blade Sealing Rings Renewal

Install lifting eyepads on the hull for removing the propeller blades as directed by the manufacturer services engineer. Rig and install Contractor furnished lifting gears.

Drain the propeller hub of all oil and dispose of it in accordance with current Federal, State and Local Government antipollution and public health regulations. Remove each blade in succession for renewal of the "O" rings in between the blade and the bearing ring. When removing the blades, positive locking of the propeller shaft is required to prevent uncontrolled turning due to propeller imbalance. Remove the blade bolt cap nuts. These nuts are tack welded in place, and the tack will require grinding/cold cutting prior to nut removal. Remove the propeller blade mounting bolts on each blade, using a hydraulic intensifier. Rig the blade clear of the propeller hub to allow access to the blade sealing ring. . Remove each blade sealing ring and clean the surfaces on the blade and bearing ring. Lift the propeller blade high enough to allow inspection on the blade mounting surfaces and submit a condition report to the MARAD COTR, rig and reinstall each blade onto the hub with complete new seal rings on each blade. Install blade mounting bolts and tighten to manufacturer's required torque using hydraulic intensifier. Install cap nuts on new "O" rings. Tack weld the nuts in place, making sure not to damage the nut "O" ring and propeller hub. The welding ground cable must be connected at the local area and close to the welds area. Fill the system with vessel-furnished new hydraulic oil. A pressure test outlined above will be performed following reassembly of all blades. Leave the propeller and system in a condition ready for operation.

In the event that the propeller blades are required to be removed from the hub for repairs, Contractor shall prepare and manufacture wooden blanks to cover the blade mounting/bearing openings. All the openings shall be sealed to prevent from contamination of foreign matter. The wooden blanks shall be manufactured of 1" thick plywood.

When complete, remove staging and equipment.

## 7. PERFORMANCE CRITERIA /DELIVERABLE

7.1. Prove all work to the satisfaction of Ship's Officer(s) and MARAD COTR.

7.2. Prepare and submit service/condition reports to MARAD COTR

## **LINE ITEM No. 0031 TAILSHAFT AND STERN TUBE BEARING INSPECTION**

### 1. ABSTRACT

1.1. The intent of this item is to accomplish the A.B.S. inspection of the tailshaft, stern tube bearing and other directly related areas requiring Class inspection for drydock and tailshaft credit. Unship rudder to clear the work area and draw the propeller shaft and propeller assembly for inspection.

### 2. REFERENCES

- 2.1. ABS Rules Requirements for Survey After Construction.
- 2.2. LIPS Instruction Book
- 2.3. LIPS Drawing W000102491 "Arrangement of Shafting"

3. LOCATION/DESCRIPTION

3.1. Propeller:

Mfr:	LIPS
Propeller diameter:	5000 mm
Number of blades:	4
Hub type:	D/1190
Direction of rotation:	Counterclockwise
Blade material:	NiAl bronze
Hub material:	NiAl bronze
Blade surface finish:	Class 1

3.2. Propeller Shaft:

3.2.1. Length:	12942 mm
3.2.2. Outside diameter aft/fwd	619/587 mm
3.2.3. Bore:	115 mm
3.2.4. Material:	CK45N
3.2.5. Aft end:	Solid flange

3.3. Shaft Coupling (fwd):

3.3.1. Mfr:	Ovako
3.3.2. Type:	OKC 380
3.3.3. Design:	Sleeve coupling, hydraulic fitted.

3.4. Shaft Coupling (aft):

3.4.1. Mfr:	Ovako
3.4.2. Type:	OKC 520
3.4.3. Design:	Sleeve coupling, hydraulic fitted.

3.5. Pitch Servo Unit / Oil Distribution (OD) Box:

3.5.1. Mfr:	LIPS
3.5.2. Type:	RO 420

4. NOTES

- 4.1. Contractor is to note that this vessel has one LIPS CPP Propeller System.
- 4.2. All work associated with this item to be supervised by LIPS propeller manufacturer's service representative scheduled by Contractor and provided at Contractor's expense.

4.3. This item to be performed in conjunction with drydocking.

4.4. This item requires that extreme cautions be taken to ensure that the ingress of contaminants from the hull cleaning/sandblasting/coating work does not have an adverse impact on this repair item.

5. COTR FURNISHED MATERIAL/EQUIPMENT/SERVICES

5.1. None.

6. STATEMENT OF WORK REQUIRED

Immediately upon drydocking, build staging around the vessel's stern area to provide access to perform work on the propeller and rudder.

Install lifting padeyes on the hull as necessary for removing the propeller blades, hub assembly, and vessel's rudder to clear the work area for drawing the propeller shaft outward for inspection. Rig and install Contractor-furnished lifting gear/equipment.

Prior to using the lifting padeyes, clean and inspect all new and existing lifting padeyes. Check/inspect welds with nondestructive testing (NDT). If any crack or flaw is found, remove the defects and repair the weld. Perform weight tests on all lifting padeyes with 200% of designed working load with chain falls and weight blocks. Prepare and submit test result report to the MARAD COTR prior to use.

Provide suitable oil containers under the propeller hub and rudder to catch the oil draining from the propeller hub and rudder. Dispose of the oil/oily water will be in strict compliance with current U.S. Government, State and Local antipollution and public health regulations.

Rudder Removal and Reinstallation

This section of work Item will be worked in conjunction with the work Item entitled "Rudder Examination" detailed elsewhere in this specification package.

Install and weld lift padeyes onto the rudder on both sides and hull as necessary for removal and reinstallation of the rudder.

Make all necessary removals, including the tallow cap, which shall be cut and the welds removed.

Remove the rudder stock hydraulic nut.

Lower the rudder to clear the pintle free of gudgeon and rig free of the vessel.

Place the rudder on substantial timber support in the drydock.

Clean the rudder pintle, gudgeon and bearing. Prepare the rudder for reinstallation. After the propeller shaft is reinstalled and connected to the hydraulic coupling and as directed by the MARAD COTR, rig and reinstall the rudder to the rudder post, pintle and gudgeon. Provide and install new O-rings and seals.

Reinstall the rudder stock hydraulic nut. The final tightening check of the hydraulic nut shall be witnessed by ABS Surveyor, USCG Inspector and MARAD COTR.

Reinstall all removals including the hydraulic nut cap, inspection plates, etc. Refill the hydraulic nut cap

with tallow or suitable preservative and weld the cap in place. Weld all the inspection/access plates.

Cut and remove all Contractor-installed lifting padeyes on the rudder and ship's hull. Grind all the disturbed areas to smooth surfaces. Prepare and paint any disturbed surfaces in accordance with the paint system specified under "Underwater Hull Preparation and Coating" detailed elsewhere in this specification package.

#### Propeller Shaft Hydraulic Coupling

Make necessary removals in order to gain access to work on the propeller shaft hydraulic coupling at the shaft alley.

Clean the intermediate shaft surface for a length of approximately 2 meters in the area just forward of the coupling.

Install equipment/chain falls to support the shaft ends on both sides of the coupling.

Fit/install hydraulic intensifying pump and injectors to the coupling and force oil between the coupling sleeves. Open the pump return valve and slide the outer sleeve off the inner sleeve. Once the coupling is loose, slide the

Note: Cleanliness of the coupling and surrounding area must be maintained at all times until the coupling is reassembled and this work item is completed.

After the propeller shaft inspection/survey is completed and when the shaft is back in its proper position, clean the shaft ends and the sleeves. Prepare the hydraulic coupling for reassembly. Provide and install new O-Rings. Reassembly the hydraulic coupling by shifting the coupling assembly off the intermediate shaft and back into its installation position. Position the inner sleeve in proper location on the shafts. Using the assistance of the hydraulic intensifiers, push the outer sleeve up onto the inner sleeve. Final drive-up position shall be as specified by the manufacturer's representative.

Reinstall all removals and leave the hydraulic coupling in operational condition.

#### Propeller Shaft Inspection/Survey

This section of work Item shall be worked in conjunction with the work Item entitled "Propeller Shaft Wear Down Readings" and "Controllable Pitch Propeller Maintenance" detailed elsewhere in this specification package. All work specified within this work item shall be under the direct supervision of the Contractor-provided manufacturer's service engineer.

After the propeller blades have been removed, cover and protect all hub openings with plywood blanks. Disassemble the propeller valve rod in way of the removed shaft hydraulic coupling. This will require removal of the muff locking pin and disassembly of the muff. Rig the propeller shaft out and completely clear of the stern from both ends and level to avoid damage to the stern tube bearings. The stern tube bearings must be kept under constant watch to ensure they are not placed under excessive or abnormal force. The propeller shaft is to be placed on the drydock on timber/wooden blocks providing support along its full length. The propeller shaft is to be fully protected from damage while it is out of the vessel.

Clean and prepare the propeller shaft for inspection. Furnish the services of NDT technicians to perform either a dye penetrate or magnetic particle tests of the propeller hub flange radius. Which type of testing to be required will be discretion of the cognizant regulatory body. In order to perform NDT tests on the hub coupling flange, Contractor shall disassemble and remove the flange cover from the

propeller hub. Upon completion of NDT tests and when directed by MARAD COTR, reassemble the hub flange cover with new O-Rings and seals. The forward and aft stern tube bearing are to be cleaned and prepared for inspection. Take measurements of the forward and aft stern tube bearing on inside diameters and of the corresponding areas on the propeller shaft on outside diameters. On the forward/inboard bearing, the measurements shall be take in three (3)

longitudinal locations (forward, center and aft) with two (2) readings (top to bottom and port to starboard side) at each location. The aft/outboard bearing shall be measured in five (5) longitudinal locations (from forward to aft) with two (2) readings (top to bottom and port to starboard side) at each location. Prepare and submit the readings in report form to the MARAD COTR prior to the joint surveys/inspection with ABS, USCG, MARAD COTR and ship's officers. The Contractor shall make arrangements/coordinate with ABS, USCG, and the MARAD COTR for the joint surveys/inspection.

Following satisfactory inspection and acceptance and with the stern tube oil seal assembly reinstalled, the propeller shaft is to be reinstalled. Rig the propeller shaft into the stern tube. During reinstallation of the propeller shaft, it is of extreme importance to maintain the shaft on a level plane throughout rigging operations. This is necessary to avoid damage to either the forward or aft stern tube bearings. Chain falls should be fitted to the forward end of the shaft to allow drawing that shaft in through the stern tube as opposed to forcing it from behind. Constant checking shall be maintained to ensure that the shaft dose not place undue force on the stern tube bearings. Verify that the shaft is fully seated in the bearings and that it does not have an abnormal attitude. Upon satisfactory installation of the shaft, refit the propeller valve rod muff and locking pin. Reinstall shaft seals as covered under a separate work item entitled "Stern Tube Oil Seal Assembly Overhaul".

Fill the stern tube with vessel-furnished new oil. Test the stern tube oil seals with ship's head tank pressure.

After all related work items are completed, test operate the propeller shaft with the propeller fitted by ship's turning gear.

Following satisfactory system tests and acceptance, remove all rigging gear and equipment from the work areas. Crop and remove all the Contractor-installed lifting padeyes. Grind all disturbed areas smooth. Fully coat all the surfaces in accordance with paint system specified under "Ship's Hull Cleaning and Painting" detailed elsewhere in this specification package.

## 7. PERFORMANCE CRITERIA/DELIVERABLES

7.1. Prove all work to the satisfaction of COTR and Ship's Officers.

7.2. Prepare and submit Service Engineer service report to MARAD COTR.

## **LINE ITEM No. 0032 STERN TUBE OIL SEAL ASSEMBLY OVERHAUL**

### 1. ABSTRACT

The intent of this work Item is to overhaul the inboard stern tube oil seal assembly and renew the outboard stern tube oil seal assembly in conjunction with the work Item entitled "Propeller Shaft Survey/Inspection" All work specified within this work Item shall be under the direct supervision of a Contractor furnished manufacturer's service engineer.

### 2. REFERENCE

2.1. Manufacturer Instruction Book

3. LOCATION / DESCRIPTION

3.1. Location – Ship propeller shafting and Contractor's drydock/facility.

3.2. Manufacturer Data: Manufacturer: Wartsila Lips, Inc  
3617 Koppens Way  
Chesapeake, VA 23323  
Tel: 757-966-5438  
Type – fwd: JMT MK II #630  
- aft: JMT MK II #670

4. NOTE

- 4.1. All work associated with this item to be supervised by manufacturer's service representative scheduled by Contractor and provided at Contractor's expense.
- 4.2. This item to be performed in conjunction with all drydock Items.
- 4.3. This item requires that extreme cautions be taken to ensure that the ingress of contaminants from the hull cleaning/sandblasting/coating work does not have an adverse impact on this repair item.

5. GOVERNMENT FURNISHED MATERIAL/EQUIPMENT/SERVICES

- 5.1. One (1) each, MKII-A067-0448-5, Outboard seal assembly end cover.
- 5.2. One (1) each, MKII-A067-0448-4, In water survey support kit.
- 5.3. One (1) set, MKII-A067-044K, 670 MK2 aft Seal Kit.
- 5.4. One (1) set, MKII-F063-0347K, 630 MK2 Fwd Seal Kit

6. STATEMENT OF WORK

6.1 Work Preparations

This work Item shall be worked in conjunction with the separate work Item entitled "Propeller Shaft Survey/Inspection" detailed elsewhere in this specification package.

All work shall take place under the direction of a manufacturer's service engineer. All material will be Contractor-furnished. Before starting drawing the propeller shaft, Contractor shall drain the oil from the inboard and outboard stern tube oil seal boxes into Contractor-furnished containers. Collect samples of each seal box for possible testing. Disposal of the oil shall be in strict compliance with the current Federal, State, and Local antipollution and public health regulations. Dismantle the oil seal boxes off of the stern tube and prepare for drawing the propeller shaft.

6.2. Outboard Seal Removal, Modification and Replacement

Loosen the chrome steel liner and fasten to the seal casing by means of the mounting straps. Remove the casing from the stern tube flange. Place protective covering over the casing to stern tube mating flange. Remove the sealing from the propeller shaft when the propeller shaft is withdrawn being careful not to damage the seal or the shaft during the process.

After the propeller is removed from the stern tube, transport the seal box to the Contractor's workshop for overhaul. Completely disassemble the oil seal box. Clean and lay out all parts for inspection. Modify the stern tube seal assembly by adding/change the end cover and support ring under the direct supervision of the manufacturer Service Engineer. The services of Manufacturer Engineer(s) shall be arranged and provided by Contractor.

Following satisfactory inspection, modification and acceptance, reassemble the oil seal box with Government furnished new seals. Cover the seal box with protective material and prepare for reinstallation.

Convey the overhauled aft stern tube oil seal assembly to ship.

### 6.3 Inboard Seal Removal and Inspection

Loosen the chrome steel liner and fasten to the seal casing. Loosen and remove the two-piece clamp ring which normally secures the liner to the shaft. Disconnect the oil supply and drain lines and save it on side for reinstallation. Remove the casing from the stern tube flange. Remove the sealing from propeller shaft as the shaft being withdrawn being careful not to damage the seal or the shaft during process.

After the propeller shaft is removed from the stern tube, transport the assembly to the Contractor's workshop for overhaul. Completely disassemble the oil seal box. Clean and lay out all parts for inspection. Prepare and submit condition report to MARAD Surveyor.

Following satisfactory inspection and acceptance reassemble the oil seal box with Government furnished new seals. Cover the seal box with protective material and prepare for reinstallation.

Convey the overhauled forward stern tube oil seal assembly to ship.

Before the propeller shaft is ready for reinstallation back into the stern tube, Contractor shall reinstall the inboard and outboard seal assembly into the stern tube.

### 6.4 Outboard Seal Reinstallation

Installation will be in the reverse order of the dismantling process. Fit the seal assembly, with mounting straps, over the shaft making sure not to damage the new seals. The flange gaskets for the seal casing to stern tube joint and liner to shaft joint must be in place at this time. Ensure that the shaft is clean. After drawing the propeller shaft in, affix the seal casing to the stern tube with new gasket. The holes for measuring the bearing clearance must point vertically up and down.

Loosen and remove the mounting straps. Affix the chrome liner to the shaft with new gasket. Lockwire the casing and the liner screws/bolts using stainless steel wire.

### 6.5 Inboard Seal Reinstallation

Fitting of the inboard seal assembly in the vessel will take place following fitting of the outboard seal assembly. While drawing the propeller shaft into the vessel, fit the inboard seal assembly over the shaft for eventual installation. The shaft must be cleaned and kept perfectly clean to avoid damage to the seal assembly. The seal assembly is not to be fit until the shaft is fully in the ship and after the shaft is verified to be fully seated in the stern tube bearings. After installing the outboard seal, the inboard seal casing is to be fixed onto the stern tube using new gasket. Slide a

new O-ring over the shaft to the liner. Re-secure the two-part clamp ring to the shaft while ensuring it to be parallel to the casing. Release the chrome steel liner from the casing and screw it to the clamp ring in order to press the rubber ring into the bevel in the liner. Refit the oil supply piping. Check parallelism between the liner flange and the casing by using calipers.

#### 6.6 Seal Pressure Tests

Conduct a pressure test to ensure seals to be properly installed and working. On the outboard seal, remove the oil fill, vent and drain plugs (3 total) on the seal casing. On the inboard seal, slacken the oil drain line at the bottom of the casing. Fill the stern tube using vessel-furnished new oil making sure to remove all air from the system. The seal shall remain under standing head pressure for a period up to four (4) hours. If leakage is found, the source of the leakage shall be identified, corrected, and retested. If no leakage is found, install the outboard seal drain plug. Fill the oil seal through the fill connection using new oil. Tighten the fill and vent plugs. Refit the inboard seal drain line. Fill the forward seal oil system and receiver with new oil.

### 7. PERFORMANCE CRITERIA/DELIVERABLES

7.1. Prove all work to the satisfaction of COTR and Ship's Officers.

7.2. Prepare and submit Service Engineer service report to MARAD COTR.

### **LINE ITEM No. 0033 SEA VALVE AND OVERBOARD DISCHARGE VALVE OVERHAUL**

#### 1. ABSTRACT

The intent of this work Item is to open and clean all sea valves and overboard discharge valves while the ship is on drydock. The valves are to be prepared for inspection by ABS and USCG.

#### 2. REFERENCE

None.

#### 3. LOCATION / DESCRIPTION

<b>SEA VALVES &amp; OVERBOARD VALVES</b>					
<b><u>No</u></b>	<b><u>Service</u></b>	<b><u>Location</u></b>	<b><u>Type</u></b>	<b><u>Size</u></b>	<b><u>Qty</u></b>
01	Emergency Fire Pump Suction	Emergency Fire Pump Room	Gate	6"	1
02	Emergency Fire Pump Sea Chest Steam Out	Emergency Fire Pump Room	Globe	1"	1
03	Emergency Fire Pump Leak Off	Emergency Fire Pump Room	None	Blank	1
04	Emergency Fire Pump Sea Chest Vent	Salt Water Ballast Tank, 5-65-2	Gate	2"	1
05	Fire & Ballast Pump Sea Chest Vent	Shaft Alley, Stbd, Fr. 155	Gate	2"	1
06	Fire & Ballast Pump Sea Chest Steam Out	Shaft Alley, Stbd, Fr. 155	Globe	1"	1

**SEA VALVES & OVERBOARD VALVES**

<u>No</u>	<u>Service</u>	<u>Location</u>	<u>Type</u>	<u>Size</u>	<u>Qty</u>
07	Fire & Ballast Pump Sea Suction	Shaft Alley, Stbd, Fr. 155	Gate	8"	1
08	Distiller Feed Pump Sea Suction	Engine Room, Lower Level, Port, Fr. 124/125	Gate	5"	1
09	Distiller Feed Pump Sea Chest Vent	Engine Room, Lower Level, Port, Fr. 124/125	Gate	2"	1
10	Distiller Feed Pump Sea Chest Steam Out	Engine Room, Lower Level, Port, Fr. 124/125	Globe	1"	1
11	Chloropac Discharge Main & Aux. Sea Water System	Engine Room, Lower Level, Stbd, Fr. 116, Low Sea Suction	None	Blank	1
12	Chloropac Discharge Main & Aux. Sea Water System	Engine Room, Lower Level, Stbd, Fr. 116, High Sea Suction	None	Blank	1
13	Low Suction Sea Chest Air & Steam Blow Down	Engine Room, Lower Level, Stbd, Fr. 115	Globe	1"	1
14	Main & Aux. High Sea Suction Vent	Engine Room, Lower Level, Stbd, Fr. 114	Gate	2"	1
15	Main & Aux. Low Sea Suction Vent	Engine Room, Lower Level, Stbd, Fr. 114	Gate	2"	1
16	Main & Aux. Sea Water High Suction	Engine Room, Lower Level, Stbd, Fr. 115	Gate	18"	1
17	Main & Aux. Sea Water Low Suction	Engine Room, Lower Level, Stbd, Fr. 115	Gate	18"	1
18	Main & Aux. Sea Water High Suction Sea Chest Blow Down	Engine Room, Lower Level, Stbd, Fr. 115	Globe	1"	1
19	Main & Aux. Sea Water Low Suction	Engine Room, Lower Level, Port, Fr. 115	Gate	18"	1
20	Main & Aux. Sea Water System Chloropac Discharge	Engine Room, Lower Level, Port, Fr. 115	None	Blank	1
21	Main & Aux. Sea Water System, Sea Chest Blow Down	Engine Room, Lower Level, Port, Fr. 115	Globe	1"	1
22	Main & Aux. Sea Water System, Sea Chest Vent	Engine Room, Lower Level, Port, Fr. 115	Gate	2"	1
23	Air Conditioning Cooling Water O/B Discharge (ASW System)	Engine Room, 23' Level, Stbd, Fr. 126	Gate	8"	1
24	Main Sea Water System O/B Discharge	Engine Room, 23' Level, Port, Fr. 117	Gate	12"	1
25	Main & Aux. Sea Water System Chloropac Discharge	Engine Room, Lower Level, Port, Fr. 115	None	Blank	1

**SEA VALVES & OVERBOARD VALVES**

<u>No</u>	<u>Service</u>	<u>Location</u>	<u>Type</u>	<u>Size</u>	<u>Qty</u>
26	Fire & Ballast Pump O/B Discharge	Shaft Alley, Stbd, Fr. 161	Globe	5"	1
27	Bilge & Ballast Pump O/B Discharge	Engine Room, 12' Level, Stbd, Fr. 116	Globe	6"	1
28	Sewage Treatment Pump O/B Discharge	Engine Room, 32'6" Level, Stbd, Fr. 138	Gate	4"	1
29	MSD Tank Vent & Overflow O/B Discharge	Engine Room, 32'6" Level, Port, Fr. 137	Swing Check	4"	2
30	Aft House Grey Water Drain O/B Discharge	Engine Room, 32'6" Level, Port, Fr. 136	Scupper	4"	1
31	Boiler Blow Down, O/B Discharge	Engine Room, 12' Level, Stbd, Fr. 139	Globe	1"	1
32	Main & Aux. Sea Water System Chloropac Discharge	Engine Room, Lower Level, Stbd, Fr. 116, Low Sea Suction	Gate	1.5"	1
33	Main & Aux. Sea Water System Chloropac Discharge	Engine Room, Lower Level, Stbd, Fr. 116, High Sea Suction	None	Blank	1
34	Ship's Stores Refrigeration Cooling Water O/B Discharge	Engine Room, 12' Level, Port, Fr. 126	Gate	3"	1
35	Grey Water Overboard Discharge	Machine Shop, Stbd, Fr. 116	3-Way Plug	4"	2
36	Grey Water Overboard Discharge	Machine Shop, Stbd, Fr. 116	Scupper	4"	2
37	Steam Out/Blow Down Overboard	Engine Room, 32'6" Level, Stbd, Fr. 138	Globe, Angle	3"	1
38	Dome Pump O/B Discharge	2 <sup>nd</sup> Deck, Fan Room, Fr. 88, Port	Gate	1.5"	2
39	Grey Water O/B Discharge, Fwd House	2 <sup>nd</sup> Deck, Fan Room, Fr. 86, Port	Swing Check	2"	1
40	Grey Water O/B Discharge, Fwd House	2 <sup>nd</sup> Deck, Fan Room, Fr. 86, Port	Swing Check	4"	1
41	Unknown	2 <sup>nd</sup> Deck, Freshman Berthing, Fr. 79, Port	Gate	2"	1
42	Grey Water O/B Discharge, Aft House	2 <sup>nd</sup> Deck, Store Room, Fr. 158, Port	Swing Check	2"	1
43	XBT Laucher Tube – Remove the valve and blank-off w/steel blank	2 <sup>nd</sup> Deck, Store Room, Fr. 163, Port and Stbd.	Quick Close	4"	2
44	Grey Water O/B Discharge, Aft House	2 <sup>nd</sup> Deck, Store Room, Fr. 157, Stbd	Swing Check	2"	1

<b>SEA VALVES &amp; OVERBOARD VALVES</b>					
<b>No</b>	<b>Service</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>Qty</b>
45	Grey Water O/B Discharge, Aft House	32'6" Level, Electrician's Shop, Fr. 118, Port	Swing Check	2"	1
46	Freon Relief O/B Discharge	32'6" Level, Refer Units, Fr. 129, Port	Swing Check	1.25"	1
47	Sewage Treatment Pump O/B Discharge	32'6" Level, Fr. 135/136, Port	Swing Check	3"	2
48	NIREX Fresh Water Generator O/B Discharge	23' Level, Fr. 123, Port	Gate	4"	1
49	OWS Discharge	12' Level, Fr. 126, Port	Gate	3"	1
50	Air Conditioning Freon Safety Discharge Overboard	23' Level, Fr. 121, Stbd	Swing	3"	1
51	Anchor Chain Locker Eductor Valve	Void Spaces 2-15-0	Gate	4"	1

#### 4. NOTE

This item to be performed in conjunction with all drydock Items.

#### 5. STATEMEN OF WORK REQUIRED

##### 5.1 Valve Removal

Furnish labor and material, remove and reinstall interference as required in order to accomplish this work Item

All sea valves listed in Section 3 Sea Valve List shall be opened in place, cleaned and inspected. Tag and match mark all valve parts for reassembly. Some of the sea valve has been removed and currently installed with steel blank. In this case, Contract shall remove the steel blank, cleaned and reinstalled with new gaskets.

Prior to disassembly, the Contractor is to test all remote operated valves with the ship's force operating the actuators. Make a condition report of all defects found prior to further work on the valves. Contractor shall retest all remote valve operators after completion of all installations to prove proper operation.

Completely disassemble, clean and examine all valve parts for defects in the presence of the Chief Engineer. Submit a condition report to the MARAD Surveyor listing all parts requiring repair that are beyond the scope of this item and those parts that require replacement.

##### 5.2 Valve Overhaul and Inspection

Machine, grind or lap and spot in gate to seat or disc to seat to obtain a 360 degree continuous contact. Verify contact using the blueing method.

For gate valves, transfer line shall not exceed 1/16 inch in width and shall appear within the lower 75

percent of the gate seating surface.

For globe valves transfer line shall not exceed 1/16 inch in width.

Valve stems shall be free up, cleaned and repacked. Valve stems shall be lubricated with an all purpose grease.

Lay out all the cleaned/repairs sea valves in place; arrange USCG Inspectors and ABS Surveyor to conduct Regulatory Inspections. All inspections shall be in presence of Chief Engineer and MARAD COTR.

Clean and coat valve body interiors with two (2) coats of Apexior #3.

Fasteners securing the various valves to the hull and adjoining piping, and associated parts such as pads, nipples, spuds, spool pieces, studs and flanges shall be hammer tested and examined.

Prove valve overhauls by testing for Chief Engineer, MARAD Surveyor and all regulatory bodies.

### 5.3 Valve Reassembly and Acceptance

After inspection and acceptance of the above work, reassemble all valves.

Reconnect all air actuator tubing. Conduct a thorough testing of the installed valves in the presence of the Chief Engineer and COTR.

Replace with new all bonnet fasteners and gasket materials. With exception of boiler bottom blow valves which shall be fitted with heat treated fasteners, Monel fasteners shall be used on bronze valves and CRES fasteners shall be used on steel valves.

Prior to undocking, all sea valves worked on shall be closed. When the vessel becomes waterborne and before becoming afloat, all sea valves that have been worked on shall be operated and inspected, checking valve stem packing, flanges, bonnets and valve bodies for leaks. Correct any deficiencies found. If it is necessary to bring the vessel back on drydock to correct any deficiencies found as a result of work performed on the sea valves by the Contractor, the cost of redocking the vessel shall be borne by the Contractor.

### 5.4. Sanitary Flushing Salt Water Suction Valve Spool Piece Renew

Remove the Sanitary Flushing Salt Water Pump suction valve.

Crop and renew the existing Sanitary Salt Water Pump Suction valve spool piece on the sea chest, use the removed sea water suction spool piece as sample to fabricate a new spool piece. The new spool piece shall be fabricated from schedule 120, 5" ips steel pipe with steel flange.

Upon complete of fabrication sandblasting clean the new spool piece's interior and exterior surfaces to SSPC-SP-10 Near White Metal Surfaces. Apply new coating system as per underwater hull coating system.

Regulating, fit and weld the new spool on the sea chest in accordance with ABS approved welding procedure. Upon completion, perform "vacuum box" tests in presence of ABS Surveyor, COTR and ship's force.

Clean and touch-up the disturbed surfaces to match the surrounding areas.

Reinstall the removed Sanitary Water Suction Valve onto the new installed spool piece with new stainless steel bolts and nuts, and gaskets.

## 6. PERFORMANCE CRITERIA/DELIVERABLE

Work shall be performed to the satisfaction of the Chief Engineer and MARAD Surveyor

### **LINE ITEM No. 0034 INTERNAL EXAMS OF FUEL OIL, WASTE OIL AND LUBE OILTANKS**

#### 1. ABSTRACT

- 1.1. It is the intent of this item to describe the requirements necessary to assist COTR and Regulatory Representatives in conducting internal tank and structural inspections during drydocking as required by Regulatory Body. Contractor shall provide all labor, equipment and materials to open, clean, light, ventilate, and gas free for "Safe for Men". Perform hydro/air tests in accordance with by ABS requirements. Upon completion, close all tank spaces open which inspection/repairs has been performed.

#### 2. REFERENCES/ENCLOSURES

- 2.1. ABS Rules for Building and Classing Steel Vessels, Part 1, Classification, Testing and Surveys

#### 3. ITEM LOCATION/DESCRIPTION

##### 3.1. Location:

##### 3.1.1. Heavy Fuel Oil Tanks

- 3.1.1.1. FO Storage, 5-47-1, Capacity – 409.3 Tons
- 3.1.1.2. FO Storage, 5-47-2, Capacity – 409.3 Tons
- 3.1.1.3. FO Storage, 3-146-1, Capacity – 316.9 Tons
- 3.1.1.4. FO Settling, 3-144-1, Capacity – 114.7 Tons
- 3.1.1.5. FO Day Tank, 3-144-2, Capacity – 114.7 Tons

##### 3.1.2. Diesel Oil Tanks

- 3.1.2.1. DFM/MDO Storage Tank, 5-35-01, Capacity – 382.7 Tons
- 3.1.2.2. DFM/MDO, ME Day Tank, 3-139-1, Capacity – 27.3 Tons
- 3.1.2.3. DFM/MDO, ME Settling Tank, 3-144-3, Capacity – 22.7 Tons
- 3.1.2.4. DFM/MDO, SSDG Day Tank No. 1, 2-144-3, Capacity – 6.7 Tons
- 3.1.2.5. DFM/MDO, SSDG Day Tank No. 2, 2-144-1, Capacity – 7.9 Tons

##### 3.1.3. Lube Oil Tanks

- 3.1.3.1. L.O. Settling Tank, 3-142-2, Capacity – 37.8 Tons
- 3.1.3.2. L.O. Storage Tank, 3-139-2, Capacity – 34.5 Tons

- 3.1.3.3. Main Engine Lube Oil Sump Tank, Port, Capacity – 11 Tons
- 3.1.3.4. Main Engine Lube Oil Sump Tank, Stbd, Capacity – 11 Tons
- 3.1.3.5. Reduction Gear Lube Oil Storage Tank, 2-138-2, Capacity – 10.5 Tons
- 3.1.3.6. Reduction Gear Lube Oil Settling Tank, 2-140-2, Capacity – 10.5 Tons
- 3.1.3.7. SSDG Lube Oil Tank, 6-132-2, Capacity – 4.5 Tons
- 3.1.3.8. Independent Lube Oil Tank, 4.5-125-2, Capacity – 2.5 Tons

3.1.4. Waste Oil, Dirty Oil and Oily Water Tanks

- 3.1.4.1. Waste Oil Tank, 6-114-2, Capacity – 75 Tons
- 3.1.4.2. Waste Settling Tank, 6-114-0, Capacity – 10 Tons
- 3.1.4.3. Oily Waste Holding Tank, 6-120-2, Capacity 18 Tons
- 3.1.4.4. Dirty Oil Tank, 6-136-2, Capacity 5 Tons.

4. NOTES

- 4.1. This item to be performed in conjunction with drydocking Items.
- 4.2. All fittings, calibrated gauges, etc. necessary for this testing shall be furnished by the Contractor.
- 4.3. All internal exams and testing shall be performed in the presence of USCG, ABS, and COTR.

5. STATEMENT OF WORK REQUIRED

- 5.1. Open all tanks listed in Section 3.1. Contractor to remove tank manhole covers (two per tank) as directed by the COTR for tank inspection, taking care to string all nuts and washers and wire adjacent to opened manhole.
- 5.2. Contents of tanks to be pumped down to suction limits by ship's force. Contractor to remove any remaining contents from open tanks.
- 5.3. Ship has approximately 140,000 gallons of fuel oil onboard and storage in various fuel oil tanks. Contractor shall make arrangement with Chief Engineer to transfer the fuel oil from one tank to other tank during fuel oil tank cleaning and gas freeing, the designated fuel oil tank will be pumped down to as low a level as possible by the ship's engineers. All remaining fuel oil, water and sludge shall be removed and disposed of by the contractor, in accordance with all Federal, State and Local environmental laws and regulations.
- 5.4. Contractor shall open and clean the Starboard Main Engine Lube Oil Sump Tank and one of Lube Oil Storage Tank as designated by Chief Engineer first, after these tanks were inspected and approved by Regulatory Body, ship's force will pump and transfer the lube oil from the lube oil tanks to the cleaned tanks for temporary storage. The designated lube oil tank will be pumped down to as low a level as possible by the ship's engineers. All remaining lube oil, water and sludge shall be removed and disposed of by the contractor, in accordance with all Federal, State and Local environmental laws and regulations.
- 5.5. Ventilate open tanks with clean fresh air for a minimum 24 hours prior to any work. Tanks shall be free of all petroleum products and vapors.

- 5.6. Flush / clean tanks, rig ventilation in the tank spaces and furnish documentation from a certified Marine Chemist that the spaces are "Safe for Entry" in accordance with the Item No. 111 specification "Gas Free" item. Gas Free status to be maintained during duration of this item. Contractor shall be responsible for the proper disposal of any waste generated by tank cleaning.
- 5.7. Furnish as required ventilation, lighting, and assistance for the interested parties in surveying the above listed tanks.
- 5.8. Proper operation of all reach rods shall be demonstrated to COTR.
- 5.9. Clean all manhole covers and seating surfaces, renew all missing or broken studs, renew all gaskets using proper materials based on tank use. Lubricate studs with anti-seize compound and reinstall all manhole covers as directed. (Contractor to thoroughly inspect tanks for rags, debris, etc. prior to tank closure. Also, COTR shall be notified in advance of any tank closure and given an opportunity to inspect tank to verify cleanliness.)
- 5.10. All tanks shall be air/hydro tested in accordance with ABS Requirements to verify tightness to a pressure of 2 psig for duration of 10 minutes. The allowable pressure drop shall be 0 psig. All test gauges shall be currently calibrated with certificates. The tank been air tested shall be provided with air relief system/valve, the relief shall be setting at 2.1 psig to prevent over pressurizing the tank.  
Note: It is the Contractor's responsibility to obtain approval from ABS Surveyor for the tanks' hydro test procedure, either use "Air Pressure Test" or "Hydrostatic Test" the ABS Surveyor shall accepted it as "Tank Hydro Test" and issue credits for ship's special hull surveys. If using Hydrostatic Test, Contractor shall use fresh water and upon completed, Contractor shall pump, remove and dispose the test water in accordance with Federal, State and Local EPA Regulations. The tank shall be cleaned and dried for storage of fuel oil.
- 5.11. Clean all manhole covers and seating surfaces, renew all missing or broken studs, renew all gaskets using proper materials based on tank use. Lubricate studs with anti-seize compound and reinstall all manhole covers as directed. (Contractor to thoroughly inspect tanks for rags, debris, etc. prior to tank closure. Also, COTR shall be notified in advance of any tank closure and given an opportunity to inspect tank to verify cleanliness.)

## 6. PERFORMANCE CRITERIA/DELIVERABLES

- 6.1. Prove all the work to the satisfaction of COTR and Ship's Officer.
- 6.2. Prepare and submit QA tanks' condition reports to COTR, the QA report shall provided with the condition of the tank, date of internal examine, date of hydro test and the name of attendants.

## **LINE ITEM No. 0035 SEA WATER BALLAST TANK INSPECTION**

### 1. ABSTRACT

- 1.1. It is the intent of this item to describe the requirements necessary to assist COTR and Regulatory Representatives in conducting internal tank and structural inspections during drydocking as required by Regulatory Body. Contractor shall provide all labor, equipment and materials to open, clean, light, ventilate, and gas free for "Safe for Entry". Perform hydro/air tests in accordance with by ABS requirements. Upon completion, to close all tank spaces required for inspection/repairs.

### 2. REFERENCES

2.1. ABS Rules for Building and Classing Steel Vessels, Part 1, Classification, Testing and Surveys

3. LOCATION / DESCRIPTION

3.1. Tank List

- 3.1.1. Aft Peak, Port, 3-174-2, Capacity – 368 Tons
- 3.1.2. Aft Peak, Starboard, 3-174-1, Capacity – 352 Tons
- 3.1.3. Fore Peak, Center, 6-E-0, Capacity – 259 Tons
- 3.1.4. Tank No. 06, Center, 6-154-0, Capacity – 85 Tons
- 3.1.5. Tank No. 07, Center, 5-15-0, Capacity – 985 Tons
- 3.1.6. Tank No. 08, Port, 5-35-2, Capacity – 315.5 Tons
- 3.1.7. Tank No. 08, Starboard, 5-35-1, Capacity – 315.5 Tons
- 3.1.8. Tank No. 09, IB/Starboard, 5-65-1, Capacity – 250 Tons
- 3.1.9. Tank No. 09, OB/Starboard, 5-65-01, Capacity – 977 Tons
- 3.1.10. Tank No. 09, Port, 5-65-2, Capacity – 250 Tons
- 3.1.11. Tank No. 10, Port, 5-77-2, Capacity – 191 Tons
- 3.1.12. Tank No. 10, Starboard, 5-77-1, Capacity – 225.5 Tons
- 3.1.13. Tank No. 11, Port, 5-101-2, Capacity – 27 Tons
- 3.1.14. Tank No. 11, Starboard, 5-101-1, Capacity – 31 Tons
- 3.1.15. Tank No. 12, Port, 5-104-2, Capacity – 255 Tons
- 3.1.16. Tank No. 12, Starboard, 5-104-1, Capacity – 255 Tons
- 3.1.17. Tank No. 13, Port, 3-154-2, Capacity – 444.5 Tons
- 3.1.18. Tank No. 13, Starboard, 3-154-1, Capacity – 435.5 Tons
- 3.1.19. Tank No. 14, Center, 3-188-0, Capacity – 72 Tons

4. NOTES

- 4.1. This item to be accomplished in conjunction with drydocking and in-tank inspection.
- 4.2. Air/hydro tests shall be comparative with ABS Steel Vessels Classification, Testing and Surveys Rules/Requirement.

5. STATEMENT OF WORK REQUIRED

- 5.1. Contractor shall provide labor, material, equipment, etc as necessary to open up all the sea water ballast tanks listed in 3.1. Pump and empty all the tanks, provide and install temporary ventilator to ventilate and circulate the tank with fresh air to a condition of "Safe for Entry". Provide services of Marine Chemist to check the condition and issue gas free certificate with condition of "Safe for Entry".

- 5.2. Contractor shall supply staging and/or scaffolding required to complete this item, including erection and dismantling of same.
- 5.3. All tanks shall be high-pressure washed (3000 psi) with fresh water prior. All residues shall be removed and discarded by Contractor.
- 5.4. After the tank internal has been washed and cleaned, provide lighting and ventilator to assist ABS Surveyor(s), Ship's Force and COTR to perform internal and tank coating inspections. Contractor shall provide his/her Q.A. Inspector(s) to perform joint inspection with all the mentioned parties, prepare and submit tank internal condition report including condition of coating, submit the report to COTR upon the inspection is completed.
- 5.5. Check and test operating all tanks' valve remote operators. Repack reach rod packing with new packing material. Proper operation of all reach rods shall be demonstrated to Ship's Force and COTR.
- 5.6. Once the tank internal examinations are completed, all tanks shall be air/hydro tested in accordance with ABS Requirements to verify tightness to a pressure of 2 psig for duration of 10 minutes. The allowable pressure drop shall be 0 psig. All test gauges shall be currently calibrated with certificates. The tank been air tested shall be provided with air relief system/valve, the relief shall be setting at 2.1 psig to prevent over pressurizing the tank.  
Note: It is the Contractor's responsibility to obtain approval from ABS Surveyor for the tanks' hydro test procedure, either use "Air Pressure Test" or "Hydrostatic Test" the ABS Surveyor shall accepted it as "Tank Hydro Test" and issue credits for ship's special hull surveys. If using Hydrostatic Test, Contractor shall use fresh water and upon completed, Contractor shall pump, remove and dispose the test water in accordance with Federal, State and Local EPA Regulations.
- 5.7. Clean all manhole covers and seating surfaces, renew all missing or broken studs, renew all gaskets using proper materials based on tank use. Lubricate studs with anti-seize compound and reinstall all manhole covers as directed. (Contractor to thoroughly inspect tanks for rags, debris, etc. prior to tank closure. Also, COTR shall be notified in advance of any tank closure and given an opportunity to inspect tank to verify cleanliness.)

## 6. PERFORMANCE CRITERIA/DELIVERABLES

- 6.1. Prove all the work to the satisfaction of COTR and Ship's Officer.
- 6.2. Prepare and submit QA tanks' condition reports to COTR, the QA report shall provided with the condition of the tank, tank internal coating condition, date of internal examine, date of hydro test and the name of attendants.

### **LINE ITEM No. 0036 TREATED FRESH WATER BALLAST TANK INSPECTIONS**

#### 1. ABSTRACT

- 1.1. It is the intent of this item to describe the requirements necessary to assist COTR and Regulatory Representatives in conducting internal tank and structural inspections during drydocking as required by Regulatory Body. Contractor shall provide all labor, equipment and materials to open, clean, light, ventilate, and gas free for "Safe for Entry". Perform hydro/air tests in accordance with by ABS requirements. Upon completion, to close all tank spaces required for inspection/repairs.

1.2. All the treated fresh water ballast tanks are treated with UNITOR ballast tank inhibitor "Bioguard". In accordance with manufacturer's statement "Bioguard will have little environmental impact due to the discharge of ballast water because of its relative good biodegradability and low mammalian and aquatic toxicity" some of the ports are approved for discharge the treated ballast water into the harbor. However, it is the Contractor's responsibility to check with the local Port of Authorities and obtain approval to dispose the treated ballast water into the harbor. Otherwise, treated ballast water shall be removed and disposed in accordance with all Federal, State and local Government Requirements.

## 2. REFERENCES

2.1. ABS Rules for Building and Classing Steel Vessels, Part 1, Classification, Testing and Surveys

## 3. LOCATION / DESCRIPTION

### a. Tank List

- i. Force Peak Water Ballast Tank, Port, 6-47-2, Capacity – 111 Tons
- ii. Force Peak Water Ballast Tank, Starboard, 6-47-1, Capacity – 115 Tons
- iii. Water Ballast Tank No.2, Port, 6-65-2, Capacity – 97 Tons
- iv. Water Ballast Tank No.2, Starboard, 6-65-1, Capacity – 97 Tons
- v. Water Ballast Tank No. 3, Port, 6-104-2, Capacity – 126 Tons
- vi. Water Ballast Tank No. 3, Starboard, 6-104-1, Capacity – 126 Tons
- vii. Water Ballast Tank No. 4, Port, 6-118-2, Capacity – 152 Tons
- viii. Water Ballast Tank No. 4, Starboard, 6-118-1, Capacity – 180 Tons
- ix. Water Ballast Tank No. 5, Center, 6-144-0, Capacity – 88 Tons

## 4. NOTES

4.1. This item to be accomplished in conjunction with drydocking and in-tank inspection.

4.2. Air/hydro tests shall be comparative with ABS Steel Vessels Classification, Testing and Surveys Rules/Requirement.

## 5. STATEMENT OF WORK REQUIRED

5.1. Contractor shall provide labor, material, equipment, etc as necessary to open up all the treated fresh water ballast tanks listed in 3.1. Pump and empty all the tanks, provide and install temporary ventilator to ventilate and circulate the tank with fresh air to a condition of "Safe for Entry". Provide services of Marine Chemist to check the condition and issue gas free certificate with condition of "Safe for Entry". Contractor shall check with local Port of Authorities for pumping and discharge the treaded water into harbor. It is the contractor's responsibility to dispose the treaded ballast water in accordance with Federal, State and local Authorities and EPA Regulations.

5.2. Contractor shall supply staging and/or scaffolding required to complete this item, including erection and dismantling of same.

5.3. All tanks shall be high-pressure washed (3000 psi) with fresh water prior. All residues shall be removed and discarded by Contractor.

5.4. After the tank internal has been washed and cleaned, provide lighting and ventilator to assist ABS Surveyor(s), Ship's Force and COTR to perform internal and tank coating inspections. Contractor shall provide his/her Q.A. Inspector(s) to perform joint inspection with all the mentioned parties, prepare and submit tank internal condition report including condition of coating, submit the report to COTR when the inspection has completed.

5.5. Check and test operating all tanks' valve remote operators. Repack reach rod packing with new packing material. Proper operation of all reach rods shall be demonstrated to Ship's Force and COTR.

5.6. Once the tank internal examinations are completed, all tanks shall be air/hydro tested in accordance with ABS Requirements to verify tightness to a pressure of 2 psig for duration of 10 minutes. The allowable pressure drop shall be 0 psig. All test gauges shall be currently calibrated with certificates. The tank been air tested shall be provided with air relief system/valve, the relief shall be setting at 2.1 psig to prevent over pressurizing the tank.

Note: It is the Contractor's responsibility to obtain approval from ABS Surveyor for the tanks' hydro test procedure, either use "Air Pressure Test" or "Hydrostatic Test" the ABS Surveyor shall accepted it as "Tank Hydro Test" and issue credits for ship's special hull surveys. If using Hydrostatic Test, Contractor shall use fresh water and upon completion, Contractor pump, remove and dispose the test water in accordance with Federal, State and Local EPA Regulations.

shall

5.7. Clean all manhole covers and seating surfaces, renew all missing or broken studs, renew all gaskets using proper materials based on tank use. Lubricate studs with anti-seize compound and reinstall all manhole covers as directed. (Contractor to thoroughly inspect tanks for rags, debris, etc. prior to tank closure. Also, COTR shall be notified in advance of any tank closure and given an opportunity to inspect tank to verify cleanliness.)

5.8. In order to open up Force Peak, Port Ballast Water Tank, Contractor shall have to open and gas free Fuel Oil Tank No. 1, Center as listed Item 212 "Internal Exams of Fuel Oil and Waste Oil Tanks". The Force Peak Port Ballast Water Tank manhole cover is inside The Fuel Oil Storage No.1 Center Tank.

5.9. When directed by the COTR, Contractor shall perform additional cleaning on Fuel Oil Storage Tank No. 1 Center and Force Peak Port Water Ballast Tank from its "Safe for Entry" gas free condition to "Safe for Hot Work" condition. Provide service of certificated Marine Chemist to check the cleaned fuel oil tank and water ballast tank condition and issue Marine Chemist Certificate with condition of "Safe for Hot Work". Force Peak Port Water Ballast Tank may need some internal steel repair work, if the internal steel repair is required, change order will be issued for repair work only.

5.10. Once all the repairs and inspections has been completed, Contractor shall fill all the treaded fresh water ballast tanks with fresh water and treaded with UNITOR Bioguard as follows:

Tank

Bioguard in Liters

6-47-1	13
6-47-2	13
6-65-1	11
6-65-2	11
6-104-1	14
6-104-2	14
6-118-1	20
6-118-2	17
6-114-0	10

## 6. PERFORMANCE CRITERIA/DELIVERABLES

- 6.1. Prove all the work to the satisfaction of COTR and Ship's Officer.
- 6.2. Prepare and submit QA tanks' condition reports to COTR, the QA report shall provided with the condition of the tank, tank internal coating condition, date of internal examine, date of hydro test and the name of attendants.

## **LINE ITEM No. 0037 FRESH WATER AND POTABLE WATER TANK INSPECTION**

### 1. ABSTRACT

- 1.1. It is the intent of this item to describe the requirements necessary to assist COTR and Regulatory Representatives in conducting internal tank and structural inspections during drydocking as required by Regulatory Body. Contractor shall provide all labor, equipment and materials to open, clean, light, ventilate, and gas free for "Safe for Entry". Perform hydro/air tests in accordance with by ABS requirements. Upon completion, close all tank spaces required for inspection/repairs.

### 2. REFERENCES

- 2.1. ABS Rules for Building and Classing Steel Vessels, Part 1, Classification, Testing and Surveys

### 3. LOCATION / DESCRIPTION

#### 3.1. Tank List

- 3.1.1. Potable Water, Port, 2-110-2, Capacity – 39 Tons
- 3.1.2. Potable Water, Starboard, 2-110-1, Capacity – 40 Tons
- 3.1.3. Potable Water, Center, 5-104-0, Capacity – 692 Tons
- 3.1.4. Distilled Water Tank, Starboard, 2-139-1, Capacity – 23 Tons
- 3.1.5. Reserved Feed Water Tank, Starboard, 2-139-3, Capacity – 20 Tons

### 4. NOTES

- 4.1. This item to be accomplished in conjunction with drydocking and in-tank inspection.
- 4.2. Air/hydro tests shall be comparative with ABS Steel Vessels Classification, Testing and Surveys Rules/Requirement.

### 5. STATEMENT OF WORK REQUIRED

- 5.1. Contractor shall provide labor, material, equipment, etc as necessary to open up all the fresh water and potable water tanks listed in 3.1. Pump and empty all the tanks, provide and install temporary ventilator to ventilate and circulate the tank with fresh air to a condition of "Safe for Entry". Provide services of Marine Chemist to check the condition and issue gas free certificate with condition of "Safe for Entry".
- 5.2. Contractor shall supply staging and/or scaffolding required to complete this item, including erection and dismantling of same.
- 5.3. All tanks shall be high-pressure washed (3000 psi) with fresh water prior. All residues shall be removed and discarded by Contractor.
- 5.4. After the tank internal has been washed and cleaned, provide lighting and ventilator to assist ABS Surveyor(s), Ship's Force and COTR to perform internal and tank coating inspections. Contractor shall provide his/her Q.A. Inspector(s) to perform joint inspection with all the mentioned parties, prepare and submit tank internal condition report including condition of coating, submit the report to COTR upon the inspection is completed.
- 5.5. Check and test operating all tanks' valve remote operators. Repack reach rod packing with new packing material. Proper operation of all reach rods shall be demonstrated to Ship's Force and COTR.
- 5.6. Once the tank internal examinations has been completed, all tanks shall be air/hydro tested in accordance with ABS Requirements to verify tightness to a pressure of 2 psig for duration of 10 minutes. The allowable pressure drop shall be 0 psig. All test gauges shall be currently calibrated with certificates. The tank been air tested shall be provided with air relief system/valve, the relief shall be setting at 2.1 psig to prevent over pressurizing the tank.  
Note: It is the Contractor's responsibility to obtain approval from ABS Surveyor for the tanks' hydro test procedure, either use "Air Pressure Test" or "Hydrostatic Test" the ABS Surveyor shall accepted it as "Tank Hydro Test" and issue credits for ship's special hull surveys. If using Hydrostatic Test, Contractor shall use fresh water and upon completed, Contractor shall pump, remove and dispose the test water in accordance with Federal, State and Local EPA Regulations.
- 5.7. Clean all manhole covers and seating surfaces, renew all missing or broken studs, renew all gaskets using proper materials based on tank use. Lubricate studs with anti-seize compound and reinstall all manhole covers as directed. (Contractor to thoroughly inspect tanks for rags, debris, etc. prior to tank closure. Also, COTR shall be notified in advance of any tank closure and given an opportunity to inspect tank to verify cleanliness.)
- 5.8. Upon all the fresh water and potable tanks are completed with Regulatory inspection and close up, the tank and associated disturbed piping and equipage shall be super chlorinated in accordance with USPHS Drinking Water Requirements. After successful chlorination, the tanks shall be refilled with potable water. Water samples shall be laboratory tested for free available chlorine and bacteriological contamination. Furnish three (3) copies of the lab results and certification that the water meets the requirements of the USPHS for potable water to the COTR.

## 6. PERFORMANCE CRITERIA/DELIVERABLES

- 6.1. Prove all the work to the satisfaction of COTR and Ship's Officer.

- 6.2. Prepare and submit QA tanks' condition reports to COTR, the QA report shall provided with the condition of the tank, tank internal coating condition, date of internal examine, date of hydro test and the name of attendants.
- 6.3. Lab test results as specified in 5.8.

## **LINE ITEM No. 0038 COFFERDAMS AND VOID SPACES INSPECTION**

### 1. ABSTRACT

- 1.1. It is the intent of this item to describe the requirements necessary to assist COTR and Regulatory Representatives in conducting internal and structural inspections in cofferdams and void spaces during drydocking as required by Regulatory Body. Contractor shall provide all labor, equipment and materials to open, clean, light, ventilate, and gas free for "Safe for Entry". Upon completion, to close all the cofferdams and void spaces with new manhole cover gaskets.

### 2. REFERENCES

- 2.1. ABS Rules for Building and Classing Steel Vessels, Part 1, Classification, Testing and Surveys

### 3. LOCATION / DESCRIPTION

#### 3.1. Cofferdam and Void Spaces List

- 3.1.1. Cofferdams, 2-104-0
- 3.1.2. Cofferdams, 2-143-1
- 3.1.3. Cofferdams, 3-190-0
- 3.1.4. Cofferdams, 3-193-0
- 3.1.5. Void Space, 5-122-0
- 3.1.6. Cofferdams, 6-170-0
- 3.1.7. Cofferdams, 6-50-0
- 3.1.8. Cofferdams, 6-75-0
- 3.1.9. Void Spaces, 2-139-0
- 3.1.10. Void Spaces, 5-122-0

### 4. NOTES

- 4.1. This item to be accomplished in conjunction with drydocking and in-tank inspection.

### 5. STATEMENT OF WORK REQUIRED

- 5.1. Contractor shall provide labor, material, equipment, etc as necessary to open up all the cofferdams and void spaces as listed in 3.1. Provide and install temporary ventilator to ventilate and circulate the cofferdams and void spaces with fresh air to a condition of "Safe for Entry". Provide services of Marine Chemist to check the condition and issue gas free certificate with condition of "Safe for Entry".

5.2. Provide lighting and ventilation equipment as necessary to assist Regulatory Body, ABS and USCG Inspectors/Surveyors to conduct internal examines and inspections.

1.1. When directed by COTR, clean all manhole covers and seating surfaces, renew all missing or broken studs, renew all gaskets using proper materials based on tank use. Lubricate studs with anti-seize compound and reinstall all manhole covers as directed. (Contractor to thoroughly inspect cofferdams and void spaces internal for rags, debris, etc. prior to tank closure. Also, COTR shall be notified in advance of any tank closure and given an opportunity to inspect tank to verify cleanliness.)

2. PERFORMANCE CRITERIA/DELIVERABLES

2.1. Prove all the work to the satisfaction of COTR and Ship's Officer.

**LINE ITEM No. 039      SEA WATER BALLAST TANK, INTREIOR COATING REPAIRS**

1. ABSTRACT

1.1. Contractor to provide labor and material to clean, surface prepare and repair interior coating on sea water ballast tanks. This Item is working in conjunction with Item 035 "SEA WATER BALLAST TANK INSPECTIONS".

2. REFERENCES

2.1. U.S. Maritime Administration, RRF Coatings Guidelines

3. LOCATION / DESCRIPTION:

3.1. Tank List

- 3.1.1. Sea Water Ballast Tank, 3-174-1, Approximately 20 percent of the total surfaces, estimated 1,660 sq. ft. to be repaired
- 3.1.2. Sea Water Ballast Tank, 3-174-2, Approximately 20 percent of the total surfaces, estimated 1,800 sq. ft. to be repaired
- 3.1.3. Sea Water Ballast Tank, 5-35-1, Approximately 30 percent of the total surfaces, estimated 1,850 sq. ft. to be repaired
- 3.1.4. Sea Water Ballast Tank, 5-35-2, Approximately 30 percent of the total surfaces, estimated 1,850 sq. ft. to be repaired
- 3.1.5. Sea Water Ballast Tank, 5-65-1, Approximately 20 percent of the total surfaces, estimated 900 sq. ft. to be repaired
- 3.1.6. Sea Water Ballast Tank, 5-104-1, Approximately 20 percent of the total surfaces, estimated 920 sq. ft. to be repaired
- 3.1.7. Sea Water Ballast Tank, 3-154-2, Approximately 30 percent of the total surfaces, estimated 2,784 sq. ft. to be repaired
- 3.1.8. Sea Water Ballast Tank, 3-188-0, Approximately 100 percent of the total surfaces, estimated 4360 sq. ft. to be repaired

4. NOTES

4.1. This Item shall be working with Item 231 "SEA WATER BALLAST TANK INSPECTION"

5. STATEMENT OF WORK REQUIRED

- 5.1. Upon completion of the fresh water wash down operation specified in LINE Item 035 is completed; remove all water generated by this operation, as well as any residual water found in the tank prior to start of washing, and any foreign matter in the tank. Dry the tank upon completion of all washing.
- 5.2. Provide and erect all necessary staging required for proper working conditions and inspections. The Paint Representative, Ship's Crews, COTR and Shipyard/Contractor Representative will conducting joint survey and mark all the coating damaged surfaces.
- 5.3. Provide and maintain adequate lighting, of a suitable nature, during the course of all surface preparation, coating and inspections.
- 5.4. Provide ventilation of sufficient size and type to maintain a clear atmosphere in the tank during mechanical cleaning.
- 5.5. All the marked coating damaged areas, including all structural members, internal piping, reach rod support brackets, tank level indicating equipment supports, interior of the manhole covers, interior of removed access cuts, etc., shall be power tool cleaning in accordance with the Steel Structures Painting Council Surface Preparation Standard SSPC-SP-3, Bare Metal Surface. All the cleaning edges shall be faired with the existing good coating.
- 5.6. Upon completion of power tool cleaning, all internal tank surfaces shall be blown-down with dry, oil free air, at a maximum pressure of 10 psi and or/vacuumed clean.
- 5.7. After the prepared surfaces have been inspected and approved by COTR, all the cleaned tank interior surfaces shall be applied with:
  - One (1) coat, AMERON, Pre-Prime 167 of 0.8 Mil DFT
  - One (1) coat, AMERON, Devran 230 HB of 4 Mil DFT
  - One (1) Coat, AMERON, Devran 230 HB of 4 Mil DFTStripe all limber holes, snipes, corners, weld seams or other areas which are not conducive to proper coverage by spray application. Striping shall be applied to each coat of paint in the system applied.
- 5.8. Thinning of the paint will be allowed for viscosity control if determined to be necessary by the paint manufacturer's representative. In no case shall be the paint be thinned in excess of 5 percent by volume. Thinner utilized for viscosity control shall be new and of the type recommended by the Manufacturer.
- 5.9. Each coat of paint in the system shall be allowed to cure a minimum of 48 hours, under the dehumidification conditions set forth in paragraph 5.6, prior to the start of the successive coat.
- 5.10. Paint material shall be stored within the Paint Manufacturer's recommended temperature range. When material is being applied, ensure that the material's temperature is within the Manufacturer's recommended temperature range, but in any case, not less than 70 degrees F.
- 5.11. Ensure the following condition are met prior to painting:
  - a. Surface shall be clean, dry, free of oil, grease or residue from abrasive blasting.
  - b. Air and metal surface temperature shall be within the range published by the paint manufacturer.
  - c. The ambient air and temperature register at least 5 degrees F. above the dew point temperature.

- d. The relative humidity is no higher than 80 percent.
  - e. Spray equipment, including pot, lines and guns, are clean and have been flush with new solvent of type recommend by the manufacturer.
- 5.12. Prior to application of any coating, the area to be painted shall be inspected and approved by the COTR and the Paint Rep. This includes not only the initial coat of paint, but all subsequent coats as well.
- 5.13. Fit and weld the removed access plates. Close the tank and apply a 1.5 psi air pressure to prove the installed plates are tight. Upon completion of air test, re-open the tank.
- 5.14. Upon completion of air tests, remove all blanks and plugs and make up all lines as original. Re-install removed tank level indicating equipment and all other interferences. Clean and coat the access plates weld seams and all other areas disturbed by reinstallations. Edges of disturbed areas shall be feathered-in. Touch-up coats shall be applied in the same order as original coatings. Where only the top coat of the system has been damaged, touch-up with the topcoat only is required. Curing times for touch-up work and dehumidification conditions shall be as set forth previously in this specification.
- 5.15. After application of final coating, the tank shall be allowed to cure, with DH operating in accordance with the requirement of paragraph 5.6. for minimum of 24 hours before introducing water to the tank.
- 5.16. Prior to closure, a final inspection of the tank interior shall be conducted by COTR and ship's Officer(s).
- 5.17. Disturbed areas on the exterior of the tank, its connected piping or equipment shall be cleaned, primed and coated to match the surrounding area.
- 5.18. The contractor shall prepare a paint report and submit same to the COTR within three (3) days of completing the coating application. The report shall include the following data:
  - a. Date and time of applications
  - b. Temperature, humidity, and dew point, at time of each application
  - c. Dry film thickness readings (ten per 1,000 sq. ft. of surfaces) for each coat of paint.
  - d. Manufacturer, Product Identification Number and Batch Numbers for each coat type of paint applied.
- 5.19. Upon completion, the vessel shall be cleaned of all residue resulting from surface preparation and painting operations.
- 5.20. All debris generated in the performance of this item, whether solid or liquid, shall be disposed of in accordance with all Federal, State and Local regulations.
- 5.21. All work shall be inspected and approved by the COTR or his designated Representative.

**LINE ITEM No. 0040 TANK INTERNAL REPAIRS**

1. ABSTRACT

- 1.1. It is the intent of this item to describe the requirements to make tank internal miscellaneous repairs in ballast water tanks, including but not limited to structure, piping, valves, reach rods, sounding tubes, etc. as specified in Section 5 "Work Requirement" of the work Item.

- 1.2. Pump and remove contaminated oily water from Permanent Ballast Tank 6-35-1 and 6-35-2. Fabricate and install new "High Hat" type steel covers over the existing tank manhole covers.

## 2. REFERENCES

- 2.1. None.

## 3. LOCATION / DESCRIPTION

- 3.1. As listed in Section 5 "Work Requirement"

## 4. NOTES

- 4.1. This item to be accomplished in conjunction with tank inspection Items.

## 5. STATEMENT OF WORK REQUIRED

- 5.1. Contractor shall provide labor, material, equipment, etc as necessary to make miscellaneous repairs inside the ballast water tanks, while the tanks are open for inspection.

### 5.2. Ballast Water Isolate Valve Repairs.

- a. Disconnect and remove one (1) 6 inch gate valve in Emergency Fire Pump Trunk and one (1) 5 inch gate valve inside SWB Tank 3-174-1 and convey the removed valves to contractor machine shop for complete overhaul.
- b. All ballast water isolation valves were equipped with electric operating actuators; contractor shall disconnect the actuator reach rod prior to dismantle the valve. Check, free up and prepare the reach rod for reinstallation after the valves have been overhauled.
- c. Completely disassemble, clean and examine all valve parts for defects in the presence of the Chief Engineer. Submit a condition report to the COTR listing all parts requiring repair that are beyond the scope of this item and those parts that require replacement.
- d. Machine, grind or lap and spot in gate to seat or disc to seat to obtain a 360 degree 1/16 inch in width and shall appear within the lower 75 percent of the gate seating surface.
- e. Valve stems shall be freed up, cleaned and repacked. Valve stems shall be lubricated with an all purpose grease.
- f. Lay out all the cleaned/repared valves in place; arrange USCG Inspectors and ABS Surveyor to conduct Regulatory Inspections. All inspections shall be in presence of Chief Engineer and COTR.
- g. Clean and coat valve body interiors with two (2) coats of Apexior #3.
- h. Reassemble the valves and accomplish hydro test to 150 percent of valve work pressure in presence of Chief Engineer and COTR.
- i. Grit blast the valve body exterior surfaces to bare metal surfaces and coat cleaned surfaces with the ballast tank interior coating system paint.
- j. When all shop overhaul works are completed, return the valve to ship and reinstall with new gaskets and bolting material. Reconnect the reach rod and operating test to the satisfactory of Chief Engineer and COTR.

### 5.3. Water Ballast Isolate Valve Operating Reach Rods.

#### SWB Tank 3-174-1

- Erect staging as necessary if required to accomplish repair ballast water isolate valves' reach rods inside the water ballast tanks. Remove the same after all work has been completed.

Clean the SWB Tank 3-174-1 to a condition enough for Marine Chemist to issue gas free certificate for "Safe for Hot Work" condition.

Dismantle and remove the wasted water ballast isolation valve reach rod inside SWB Tank 3-174-1. The removal shall be from the valve stem to the deck operator assembly including deck penetrations. Crop and remove all the support brackets. The total length of the reach rod is approximately 36 ft with 2 deck penetrations.

Using the removed reach rod as sample, fabricate or purchase new reach rod with all universal joints, cables and fittings. Fabricate new support brackets using the removed support brackets as template.

Install all new support brackets at the same location as the removed support bracket location. Clean the new support brackets and all the disturbed surfaces using the same coating system as the ballast water tank coating system.

Assemble the new reach rod assembly. Repack the deck penetration with new packing.

Test operating the new reach rod to the satisfaction of Chief Engineer/Chief Officer.

#### SWB Tank 6-E-0

- a. Erect staging as necessary if required to accomplish repair ballast water isolation valves' reach rods inside the water ballast tanks. Remove the same after all work has been completed.
- b. Disassemble the water ballast isolation valve reach rod, clean and check all the parts. Provide and renew defective parts and universal joints to place the reach rod in good operating conditions. Total length of reach rod is approximately 50 ft.
- c. Reassemble the reach rod assembly and prove it in good and free operating condition to Chief Engineer and Chief Officer.

#### SWB Tank 5-65-1 AND 5-65-2

- a. Erect staging as necessary if required to accomplish repair ballast water isolate valves' reach rods' equalization gear box inside the water ballast tanks overhead areas. Remove the same after all work completed.
- b. Disassemble the equalization valve reach rod operating gear box inside sea water ballast tank, 5-65-1 and 5-65-2 over head area. The current condition is frozen in closed position and inoperable. Clean all parts and inspect for defective parts, prepare and submit a condition report with required repair parts to COTR. Replacement parts will be provided by COTR or supply contractor under "Delivery Order".
- c. Reassemble the equalization valve reach rod/remote operator gear box with required new parts (if any), gaskets, lubricant and bolting material.
- d. Test operates the repaired equalization valve reach rod/remote operator gear box to the satisfactory of Chief Engineer and Chief Officer.

#### 5.4. Treated Fresh Water Ballast Tank 6-144-0 Sounding Tube

- a. Erect staging as necessary if required to renew the sounding tube inside treated fresh water ballast tanks. Remove the same after all work has been completed.
- b. Clean and gas free the tank to a condition for Marine Chemist to issue gas free certificate with condition of "Safe for Hot Work".
- c. Crop and remove the wasted sounding tube with all the supporting brackets and deck penetration.
- d. Fabricate and install new sounding tube, using the removed sounding tube as template. The new sounding tube shall be fabricated from 2" ips, schedule 80 steel pipe with fittings, approximately 6 ft high. The open end shall be provided with new 2" bronze quick open/close sounding tube head valve.
- e. Prime and paint the new sounding tube to match the surrounding areas. The section inside the ballast water tank shall be coated with the ballast tank coating system paint.

#### 5.5.SWB Tank 6-47-1 internal structure repair

- a. During tank internal inspection with gas free condition of "Safe for Hot Work", erect staging as necessary to crop and renew two (2) sections of tank longitudinal girder, approximately 48" x 24" x ½" each. Remove the same after all work completed.
- b. Crop and renew two (2) section of longitudinal girder approximately size 48" x 24" x ½" each as lay out and marked by ABS Surveyor. All material and welding procedure shall be in accordance with ABS Requirement. All new steel shall be grit blasted to Near White Metal Surface, SSPC-SP-10 and coated with one (1) coat of AMERON Pre-Prime 167 of 0.8 Mil DFT, one (1) coat of AMERON Devran 230 HB of 4 Mils DFT and one (1) of AMERON Devran 230 HB of Mil DFT prior to delivery to ship for installation.
- c. Rig, regulate, fit and production weld the new steel longitudinal girder insert plates in accordance with ABS Requirement.
- d. After the repairs are approved by ABS Surveyor, Power tool clean the welding seams and disturbed surfaces to SSPC-SP-3 and apply same coating as the new steel plate.

#### 5.2. Permanent Ballast Tank 6-35-1 and 6-35-2.

- a. Open up the tanks manhole covers, two (2) on each tank, the manhole covers are inside the Fuel Oil Storage Tank 5-35-01.
- b. Furnish portable pumping arrangement to pump and remove the oily water on top of the Ballast Crete/mud ballast. Filling the permanent ballast tank with fresh water from aft manhole and set up the portable pump on the fwd manhole to pump the contaminated water off the tank, this procedure shall be repeatedly until the water is clean and all the contaminant is gone.
- c. Upon completion the work specified in 5.4(b), fabricate and install four (4) new steel "High Hat" covers over the existing manhole covers. Approximately size of each "High Hat" cover is 10"H x 31"W x 42"L, the inside opening is 23"W x 34"L. The bottom flange shall be fabricated from ¾" ABS steel plate and shall be cut from a single plate and no weld allowed, drill and tap 42 each ¾" dia stud hole on each bottom flange, the stud hole shall be evenly lay out in 3" from center to center. The top flange shall be fabricated from ½" ABS steel plate, same as the bottom flange to be cut from a single steel plate and no welds allowed. Drill 42 each 7/8" bolt holes to match the bottom flange. The "High Hat" part shall be fabricated from 3/8" ABS steel plates and the out side dimension shall be 9"H x 23"W x 34"L and shall be fit to the top flange by welding, provide and install two (2) handle on the top for lifting, the handle shall be fabricated from ½" dia. Steel round bars.
- d. Once the "High Hat" cover fabrication is completed, grit blast the new "High Hat" covers interior and exterior to SSPC-SP-10 Near White Metal surface, apply one (1) coat of Primer paint and two (2) coats of epoxy paint suitable for Fuel Oil Tanks.
- e. Convey the new "High Hat" covers to ship and prepare for installation.
- f. Provide services of Marine Chemist to check the Fuel Oil Tank 5-35-01 and Permanent Ballast Tank 6-35-1 and 6-35-2 are clear for "Hot Work" and issue Marine Chemist Certificates with condition of "Safe for Hot Work".
- g. Lay out and weld the "High Hat" bottom flange to the tank top plate evenly over the Permanent Ballast Tank manhole cover. When the welding is completed, clean the new weld and disturbed surfaces to SSPC-SP-3 and apply one (1) of Primer paint and two (2) coat of epoxy paint as per "High Hat" coating system.
- h. When directed by COTR, reinstall the Permanent Ballast Tank manhole covers with new gaskets.
- i. Install the "High Hat" cover to the bottom flange with new fuel oil gaskets and bolting materials.
- j. Conduct "vacuum box" tests on all the new installed "High Hat" covers and prove it oil tightness to Chief Officer and COTR.

## 6. PERFORMANCE CRITERIA/DELIVERABLES

6.1 Prove all the work to the satisfaction of COTR and Ship's Officer.

**LINE ITEM No. 0041 ULTRASONIC/AUDIO HULL GAUGING – ABS SSH NO. 4**

1. ABSTRACT

1.1. It is the intent of this item to describe the requirements to take ABS steel hull vessel ultrasonic/audio gauging readings.

2. REFERENCE

2.1. ABS Rules for Building and Classing Steel Vessels, Part 1, Classification, Testing and Surveys

3. LOCATION / DESCRIPTION

3.1. Ship's entire steel hull, decks and compartments

4. NOTE

4.1. This Item shall be working in conjunction with all drydocking Items and Tank Internal examine and inspections.

4.2. Ultrasonic/Audio gauge reading shall be taking by ABS Certified Ultrasonic Gauge Technicians.

5. STATEMENT OF WORK REQUIRED

5.1. Arrange and provide services of ABS Certified hull ultrasonic/audio gauging technicians to perform hull ultrasonic/audio gauging reading as required by the ABS Surveyor(s), in accordance with ABS rules for "Thickness Gauging for Dry Cargo Vessels – Special Survey No. 4", requirement for Special Survey No. 4 is, but not limited to two girth belts (internal and external), the forepeak internal and aft peak internal, and may some additional reading as required by the on-site ABS Surveyor(s) in order to complete the Special Hull Surveys No. 4.

5.2. Provide labor, material, equipment, man-lift or staging, lighting, ventilation as necessary to assist the Ultrasonic Gauging Technicians to taking ultrasonic/audio thickness gauge reading on the hull and internal areas.

5.3. Upon completion, Ultrasonic/Audio Technicians shall prepare and submit five (5) hard copies of the gauging readings in ABS approved format, and one (1) electronic copy in CD to the COTR.

6. PERFORMANCE CRITERIA / DELIVERABLES

6.1. Prove all the work to the satisfaction of COTR and Ship's Officers.

6.2. Submit gauging reading reports as specified in 5.3.

**LINE ITEM No. 0042 ANCHOR CHAINS AND LOCKERS**

1. ABSTRACT

1.1. The intent of this Item is range the Port and Starboard anchor chains, lay out on drydock. Prepare the anchor chains and chain lockers for inspection

2. REFERENCE

2.1. ABS Rules for Building and Classing Steel Vessels, Part 1, Classification, Testing and Surveys

3. LOCATION/DESCRIPTION

3.1. Port and Starboard Anchor and Chains, 11 shots each.

4. NOTE

4.1. None.

5. STATEMENT OF WORK REQUIRED

5.1. Open the manholes on the port and starboard chain lockers for access.

5.2. Range the port and starboard anchor chains. Disconnect the bitter ends from the breakaway fittings and lower the bitter ends to the dock floor.

5.3. Wash down the chains and anchors to remove all mud, loose debris and salts.

5.4. Disconnect the first shot of both the port and starboard chains from the anchor swivels and the second shot of chain. Connect the second shot of chain, port and starboard, to their respective anchors. Shift the removed first shots of chain and connect same to the original bitter end of their respective chains.

5.5. Gauge the anchor chains as required by the ABS Rules. Inspect chains for loose studs, abnormal wear, damage, deteriorated connecting links or missing plugs. Inspect the anchors for bends, deteriorated crown pin, worn or otherwise deteriorated anchor shackle or shackle pin, etc. Submit, to the COTR, a report consisting of the gauging and any significant observations made during the inspections. Repairs found to be necessary as a result of the inspections will be dealt with separately.

5.6. Accomplish a Commercial Blast in accordance with the Steel Structures Painting Council Surface Preparation Standard, SSPC-SP6, to the port and starboard anchor chains and anchors. Turn the chains and anchors as necessary to ensure that all surfaces are blasted.

5.7. Surface preparation of the anchors and chains shall be inspected and approved by the COTR and the paint manufacturer's rep. prior to the application of any coatings.

5.8. Ensure the following conditions are met prior to painting:

A. Surfaces shall be clean, dry, free of oil, grease or residue from abrasive blasting.

B. Air and metal surface temperatures shall be within the range published by the paint manufacturer.

C. The ambient air and metal temperatures must register at least 5 degrees F. above the dew point temperature.

- D. The relative humidity shall be no higher than 80 percent.
  - E. No coating shall be applied at temperatures below 35 degrees F. without prior written approval of the COTR.
  - F. Painting shall not be performed between the hours of 1900 and 0800 without prior written approval of the COTR.
- 5.9. Paint material shall be stored within the paint manufacturer's recommended temperature range. When paint material is being applied, ensure that the material's temperature is within the manufacturer's recommended range for application, but in any case, not less than 70 degrees F.
- 5.10. All coatings shall be MARAD approved in accordance with MARAD RRF Coating Guidelines, Latest Revision.
- 5.11. When directed by COTR both anchors and all chains will be applied with 1 coat of epoxy holding primer in 2 mils DFT and 2 coats of black surfaces tolerant epoxy anti-corrosive to yield 5 mils DFT each for a total of 12 mils DFT. Additionally, the last and next to last shots shall be top coated as follows when the second coat of epoxy is tacky, as defined by the paint rep.:
  - A. The last shot of chain port and starboard shall be painted bright red with a paint conforming to TT-P-490.
  - B. The next to last shot of chain port and starboard shall be painted bright yellow with a paint conforming to TT-P-490.
- 5.12. Shots of chain shall be marked as follows:
  - A. Detachable links shall be painted red, white or blue in a repetitive sequence: 15 fathoms, red; 30 fathoms, white; 45 fathoms, blue; 60 fathoms, red, and so on.
  - B. Links on either side of the detachable link shall be painted white, as follows: At 15 fathoms, one link on each side of the detachable link shall be painted. At 30 fathoms, two links on each side of the detachable link shall be painted. The remaining detachable links follow the same progression.
  - C. Shots of chain shall also be marked with wire as follows: At 15 fathoms, 1 turn of wire shall be placed on the first stud on each side of the detachable link. At 30 fathoms, 2 turns of wire shall be placed on the second stud on each side of the detachable link. The remaining detachable links follow the same progression.
- 5.13. The entire interior on both Port and Starboard chain lockers and drain well sumps are to be cleaned with high pressure water jet blasting to International Hydroblasting Standards (IHS), HB2 "Thorough Hydroblast Cleaning" or, SSPC SP-6, and remove all rust, scale, mud, dirt, failed coating and debris. Ventilation and dehumidification shall be provided during high pressure water jet blasting operations.
- 5.14. After the prepared chain lockers' interior surfaces have been inspected and approved by COTR, the entire cleaned surfaces shall be coated in accordance MARAD RRF Coating Guideline, Appendix A-1(3), Approved Special Purpose Coatings – Chain Lockers, HEMPEL Hempadur

35539 or JOTUN, 65 Sovapon Mastic, Coating system. Painting condition requirements shall be conveyed lockers' Prepare the 35539 or JOTUN, 65 Sovapon Mastic, Coating system. Painting condition requirements shall be conveyed lockers' Prepare the to shop and grit blasted to SSPC SP-10 and apply same coating system as the chain interior surfaces. Return the manhole covers to ship and prepare for reinstallation. chain lockers for storing the anchor chains.

5.15. Upon completion of all coating and marking of the chains, reconnect the bitter ends of the chain in their respective chain lockers. Ensure that there are no twists in the chain, either between the bitter end and the wildcat or between the wildcat and the pawl. Clean and touch-up chain locker coatings disturbed by this work. Remove all rigging gear and debris. When approved by the COTR, heave-in the anchor chains and bring the anchors home.

5.16. Close the access manholes on the chain lockers using new gaskets and existing fasteners. Clean and touch-up paint on disturbed surfaces.

5.17. All debris generated in the performance of this item, whether solid or liquid, shall be disposed of in accordance with all Federal, State and Local regulations.

5.18. The contractor shall prepare a paint report and submit same to the COTR within three days of completing the coating application. The report shall include the following data:

A. Date and time of each application.

B. Temperature, humidity and dewpoint, at time of each application.

C. Manufacturer, Product Identification No. and Batch Nos. for each type of paint applied.

## 6. PERFORMANCE CRITERIA / DELIVERABLES

6.1 Prove all the work to the satisfaction of COTR and Ship's Officers.

6.2 Submit gauging reading reports as specified in 5.3.

## **LINE ITEM No. 0043    SEA WATER SUCTION STRAINERS**

### 1. ABSTRACT

1.1. The intent of this work item is to overhaul two (2) 12 inches and one (1) 5 inches Duplex Sea water Suction Strainers.

### 2. REFERENCE

2.1. NAVSEA Technical Manual T6437-AG-OMP-010/76588 "Technical Manual for Simplex and Duplex Strainers, Model 691, 692 and 125.

Note: This Technical Manual is available for offeror to review onboard only.

### 3. LOCATION / DESCRIPTION

3.1. Locations – Main Sea Suction Strainer – Engine Room Low Level, Port, Fwd  
Aux. Sea Suction Strainer – Engine Room Low Level, Starboard, Fwd  
Sanitary Sea Water Pump Suction Strainer – Low Level, Port, Fr. 130

3.2. Description – Main Sea Suction Strainer – Mfr: Mueller Steam Specialty  
901 Caroline Ave.,  
Lumberton, NC 28359.  
Model: 692F, Duplex  
Size: 14 Inch

– Aux. Sea Suction Strainer – Mfr: Mueller Steam Specialty  
901 Caroline Ave.,  
Lumberton, NC 28359.  
Model: 692F, Duplex  
Size: 12 Inch

– Sanitary Sea Water Suction Strainer – Mfr: Mueller Steam Specialty  
901 Caroline Ave.,  
Lumberton, NC 28359.  
Model: 692, Duplex  
Size: 5 Inch

4. NOTE

4.1. This work item shall be accomplished in drydock with all other drydocking items.

5. STATEMENT OF WORK REQUIRED

- 5.1. Furnish labor, material and equipment as necessary to dismantle and remove all three (3) sea water strainers as listed in paragraph 3.1. Convey the removed sea water strainers to contractor's repair for completely overhaul.
- 5.2. Power tool clean the strainer foundations and the area underneath the strainer on the bilge/tank top surfaces approximately 16 sq. ft (4 ft. x 4 ft.) to SSPC-SP-6. After the surfaces have been cleaned and approved by COTR apply new coating in accordance with MARAD RRF Coating Guideline, latest revision, Appendix A-2(2) "Bilges" approved coating system, two (2) coats of AMERON Devran 230 HB Epoxy paint, each coat shall be 4 mils DFT. Prepare the foundation for reinstallation of the sea water strainers.
- 5.3. Completely disassemble the sea water strainers in shop, lay out all the parts for inspection by Chief Engineer and COTR. Send the strainer housing for grit blasting to SSPC-SP-10, after inspected and approved by the COTR, the housing exterior surfaces shall apply one (1) of AMERON Pre-Primer in 1 mil DFT, than two (2) coat of AMERON, Devran 230 HB Epoxy paint, 4 mils DFT per coat, the last/top coat shall match the engine room bilge color. The sea water strainers' interior surfaces shall be coated with sea water service Apexior # 3. Prepare the sea water strainers for reassembly.
- 5.4. Completely overhaul the Diverter Assemblies/Units on 12 inch and 14 inch duplex strainers, it is included but not limited to the diverter handle, handle, inlet and outlet valve/disc shafts, main shaft, equalizing valve, etc., Provide and renew diverter inlet and outlet discs, seats and O-rings, total two (2) inlet discs, seats and O-ring and two (2) outlet discs, seats and O-ring in each sea water strainer, two (2) strainer to dealt with. Reassemble the sea water strainers with new gaskets, seal rings, and 316 stainless steel bolting material.
- 5.5. Completely overhaul the Diverter Assembly/Unit on the 5 inch duplex strainer. Check the diverter

shaft and spindle on machine for straightness, provide and renew all O-rings. Machine, grind or lap and spot in diverter inlet and outlet plugs to seats on the housing to obtain 360 degree continuous contact. Verify the contact using blueing method. After the repairs/overhaul are completed, reassemble the 5 inch duplex strainer with new O-rings, gaskets, and 316 stainless steel bolting material.

- 5.6. Upon completion the shop overhaul, perform hydro tests on all the overhauled Duplex Sea Water Strainers in presence of Chief Engineer, COTR and Regulatory Body Inspectors. The Hydro tests shall be conducted one (1) basket side a time, hydro tests twice on each duplex strainer. Hydro test pressure shall be 150 lbs psig.
- 5.7. Upon completion of shop work, convey and return the overhauled sea water strainers to ship and prepare for re-installation.
- 5.8. Install the overhauled duplex sea water strainers onto their foundations with new 316 stainless steel bolting material. Reconnect the piping with new gaskets and new 316 stainless steel bolts and nuts.
- 5.9. When the ship is in waterborne, tests all piping joints for leakage, repair as necessary to stop any leaks.

6. PERFORMANCE CRITERIA / DELIVERABLE

- 6.1. Prove all the work to satisfactory of Chief Engineer and COTR.

**LINE ITEM No. 0044    MAIN SEA WATER SUCTION LINE EXPANSION JOINTS AND ISOLATION VALVE**

1. ABSTRACT

- 1.1. It is the intent of this Item to describe the requirement to renew two (2) 18 inch Neoprene Expansion Joins and install one (1) new 18" bronze butterfly valve on main sea water cross-over line.

2. REFERENCE

- 2.1. None.

3. LOCATION AND DESCRIPTION

- 3.1. Location: Engine Room, Low Level, Fwd, Port and Starboard, and mid-ship.
- 3.2. Description: Neoprene Rubber Expansion Joint:  
Mfr: Proco Products Inc.,  
Stockton, Calif. 95201  
Style: 231  
Size: 18 inch dia. X 81/4 inch long.

4. GOVERNMENT FURNISHED MATERIAL/EQUIPMENT

- 4.1. Two (2) each, PROCO Neoprene Rubber Expansion Joints, Style 231.

## 5. STATEMENT OF WORK REQUIRED

- 5.1. Furnish labor, material and equipment to unbolt and remove the existing piping expansion joints on low sea suction and high sea suction valves. Clean the flanges installed on piping side and prepare to install Government provided new Neoprene Rubber Expansion joints with Contractor provided new stainless steel bolts and nuts and new gaskets.
- 5.2. While the piping expansion joints are removed, cold cut a section the main sea water cross-over CuNi pipe for install a new 18 inch, Bronze Butterfly isolation valve. Exact location shall be designated by Chief Engineer.
- 5.3. Provide and install a set of new 18 inch ips CuNi pipe flanges on the cutting pipes for install the new butterfly valve.
- 5.4. Provide and install a new 18 inch, Bronze Butterfly valve into the prepared new pipe flanges with new gaskets/O-rings and stainless steel bolts and nuts. The new Butterfly valve shall be Flanged Bronze Body Butterfly Valve with Teflon (PTFE) Seat, Alum-Bronze Disc and Stainless Steel Stem and straight actuation with hand wheel. Fabricate and install new stainless steel stem extension rod and connect to the valve stem, move the hand wheel to the top of the extension stem. The new extension stem or, reach rod shall be 36 inch from valve and shall be above the engine deck plate. Fabricate and install one (1) steel support bracket for the extended valve stem.
- 5.5. Prime and paint all the new and disturbed surfaces to match the surrounding areas.
- 5.6. During undrydocking, tests the new expansion joints and the new installed isolate valve for leaks, make repairs as necessary.

## 6. PERFORMANCE CRITERIA / DELIVERABLE

- 6.1. Prove all the work to the satisfactory to the Chief Engineer and COTR.

## **ENGINE DEPARTMENT ITEMS**

### **LINE ITEM No. 0045 GAUGE CALIBRATION**

#### 1. ABSTRACT

- 1.1. It is the intent of this to describe the requirement to calibrate all gauges and meters aboard vessel. Provide and renew defective gauges as listed in 5.6.

#### 2. REFERENCES

- 2.1. None.

#### 3. LOCATION / DESCRIPTION:

- 3.1. Location: Throughout vessel

- 3.2. Description/Quantity:

- 3.2.1. Nineteen (19) Electricity Meters (KW, Voltage, Amperage, kVAR, Hz, Power Factor, Synchronizing, Generator Temperature, etc.,
- 3.2.2. Pressure gauges – Calibration – 95 each, Renew - 26 each

3.2.3. Temperature gauges – Calibration – 85 each, Renew – 8 each

#### 4. NOTES

- 4.1. It is the Contractor's responsibility to remove and reinstall upon completion of work any and all interferences to complete this specification.
- 4.2. The Contractor shall insure that all electrical power and/or pressurized fluids connected to gauges and instruments being calibrated has been secured and properly locked out / tagged out prior to the commencement of work.

#### 5. STATEMENT OF WORK REQUIRED

- 5.1. Contractor is to employ an approved gauge calibration company to calibrate vessel's gauges as listed in 3.2.
- 5.2. All pressure, temperature, level indicator, voltage, amperage, kilowatt, KVAR, frequency, power-factor, synchronizing gauges shall be tested and calibrated.
- 5.3. A condition report is to be written on all gauges tested and calibrated and submitted to COTR.
- 5.4. All gauges successfully tested shall have a certificate attached with testing/calibration date and expiration date.
- 5.5. After testing and calibration, all gauges and meters shall be reinstalled.

5.6. Provide and renew following gauges:

##### 5.6.1. Pressure Gauge:

- Two (2) each, 2-3/4" dia. 0-200 psi
- Four (4) each, 4" dia. 0-100 psi
- Two (2) each, 4" dia. 0-60 psi
- Two (2) each, 2-1/4" dia. 0-4 Bar
- Four (4) each, 2-1/2" dia. 0-100 psi
- Two (2) each, 6" dia. 0-160 psi
- Four (4) each, 2" dia. 0-200 psi
- Two (2) each, 4-1/2" dia. (-30)-0-300 psi

##### 5.6.2. Temperature Gauge

- Four (4) each, 5" dia. 0-200 Degree F
- Two (2) each, 2-1/2" dia. 20-240 Degree F
- Two (2) each, 3-1/3" dia. (-20)-120 Degree F

#### 6. PERFORMANCE CRITERIA / DELIVERABLES

- 6.1. Gauge and Meter Condition Report.
- 6.2. Prove all the work to the satisfaction of Chief Engineer and COTR.

## **LINE ITEM No. 0046    PIPING REPAIRS**

### 1. ABSTRACT

- 1.1. It is the intent of this item to describe the requirements to perform various piping repairs as detailed within this specification item.

### 2. REFERENCES

- 2.1. CFR (Code of Federal Regulations) Title 46, Subchapter F "Marine Engineering", Subpart 56 "Piping System and Appurtenances".

### 3. LOCATION / DESCRIPTION:

- 3.1. Auxiliary Sea Water Pump Discharge Line, Engine Room, Frame 128, Starboard Side.
- 3.2. Black Water Stop Valve, 4<sup>th</sup> Deck, Frame 75 ladder well.
- 3.3. Grey Water Piping, 4<sup>th</sup> Deck.
- 3.4. Black Water Piping, Engine Room Space.
- 3.5. Small NIREX Overboard Discharge Hull Penetration and Stop Valve.

### 4. NOTES

- 4.1. It is the Contractor's responsibly to remove and reinstall upon completion of work any and all interferences to complete this specification.
- 4.2. Contractor is to have a Certified Marine Chemist confirm all tanks safe for hot work and issue a "Safe for Hot Work" certificate in accordance with Specification "Gas Free" item. If necessary, Contractor to provide ventilation required to achieve a gas free condition. Contractor is to maintain gas free status for the duration of the work. The tanks are to be tested a minimum of at least once every 24 hours, with a new certificate issued.
- 4.3. Contractor shall insure safe hot-work procedures are followed and it is the Contractor's responsibility to remove and reinstall upon completion of work any hazards that may prevent safe hot work.
- 4.4. Contractor shall comply with requirements for weld procedures and welder qualifications included in the General Requirements item of this specification. All welds are to be approved by COTR.
- 4.5. Contractor shall ensure that all piping systems are opened and isolated from all pressure sources and that systems are properly locked out / tagged out. Contractor shall be responsible to drain systems to be opened and to properly dispose of all drainage.
- 4.6. Piping internal surfaces shall be free of foreign material.
- 4.7. Contamination of systems in which piping is being repaired shall be prevented.

## 5. STATEMENT OF WORK REQUIRED

### 5.1. Auxiliary Sea Water Pump Discharge Line.

5.1.1. Fabricate and install a new 5 inch ips CuNi pipe connect from ASW pump discharge line "tee" next to the "hot well" frame 128 at engine room low level, starboard side. The new pipe shall be run upward to engine room mid-level through deck penetration and connect to the existing overboard hull penetration. The new ASW pump direct overboard discharge line is approximately 25 ft. long with all necessary CuNi pipe fittings, two (2) each, 5 inch 150 psi bronze, Monel trim globe valve, the valve on the hull overboard end shall be globe check valve and shall be installed in horizontal to the hull penetration. All the pipe joints shall be flanged with CuNi pipe flanges; approximately 8 bronze flanges will be needed.

5.1.2. New piping section shall be isolated and hydrostatically tested to a pressure of 150 psig for a period of 30 minutes. No leakage shall be permitted.

5.1.3. Make up the new piping sections with new gaskets and bronze/brass bolts and nuts.

### 5.2. Renew black water isolate valve on fwd deck house, stair tower 2, 4<sup>th</sup> deck.

5.2.1. Unbolt and remove the 5 inch Gate valve currently installed in fwd deck house, stair tower 2, 4<sup>th</sup> deck ladder well overhead area, the existing valve is installed upside down.

5.2.2. Modify the existing pipe sections for install a 5 inch, flanged stainless steel ball valve. Provide and install one (1) each, 5 inch, flanged stainless steel ball valve with a set of new 5 inch pipe flanges with new gaskets and stainless steel bolts and nuts.

### 5.3. Renew sections of grey water piping on 4<sup>th</sup> deck.

5.3.1. Remove deteriorated section of steel pipe and a section of temporary installed hose from the grey water line in 4<sup>th</sup> deck.

5.3.2. Fabricate and install a new section of steel pipe to replace the removed steel pipe and hose with NPS 2" ASTM A106 Grade B seamless ABS Schedule 80 steel pipe and steel couplings. The new section of piping shall be provided with 90 degree sweeping bend and clean out plug, and shall be pitched down to the 3 inch main line with 2 inch to 3 inch, 3 inch pipe tee reducer.

5.3.3. Clean, prime and paint the new and disturbed surfaces to match the surrounding areas.

### 5.4. Fabricate and replace black water piping in engine room areas.

5.4.1. Remove deteriorated piping sections from the black water lines inside the engine room areas as designated by Chief Engineer.

- 5.4.2. Using the existing removed pipes as template, fabricate a replacement pipes from ASTM A 106 GR B seamless ABS Schedule 80 steel pipe and ASTM A 105 150 psi steel flanges. Approximately 70 ft. of 6 inch ips schedule 80 pipe with four (4) sets of steel flanges, one (1) clean out plug, one (1) 90 degree elbow, one (1) 45 degree elbow, one (1) steel bulkhead penetration and necessary bolting materials and gaskets. 4 ft. of 4 inch ips schedule 80 pipe with one (1) set of steel flanges, and 6 ft. of 3 inch ips schedule 80 steel pipes with steel flanges and fittings. The piping repairs will be in three (3) separate locations as designated by the Chief Engineer.
- 5.4.3. Replaced piping section shall be isolated and hydrostatically tested to a pressure of 150 psig for a period of 30 minutes. No leakage shall be permitted.
- 5.4.4. Clean, prime and paint all the new and disturbed surfaces to match the surrounding areas.
- 5.5. Install new overboard discharge valve and hull penetration for small NIREX Fresh Water Generator.
  - 5.5.1. While the ship drydock, lay out and cut an hole on the ship's shell plating for install a new sea water overboard outlet with new valve on engine room, mid-level, port side, Frames 125 and 126 at approximately 12 inch from 23 foot level deck and above the sea level. Exact location shall be designated by Chief Engineer. The lay-out, cutting, welding and installation procedures shall be approved by ABS and USCG.
  - 5.5.2. Fabricate and install new outboard spooler with 4 inch, ips, ASTM A106 GR B seamless ABS Schedule 120 steel pipe and steel flange. The spooler shall be 6 inch long from the shell plating and supported with four (4) each, 4" x 3" x ½" steel triangle braces. Provide install one (1) each, 4 inch, 150 psi bronze globe check valve on the flange with new gaskets, and stainless steel blots and nuts. Fabricate and install a steel blank with new gaskets, and stainless steel bolts and nuts on the open end of the new valve.
  - 5.5.3. Conduct "vacuum box" tests on the all hull welds to the satisfaction of ABS Surveyor(s), USCG Inspector(s), Ship's Force and COTR.
  - 5.5.4. Clean, prime and paint the new and disturbed surfaces to match the surrounding areas. The exterior surfaces on the ship's hull shall be touched up with the hull coating system.

## 6. PERFORMANCE CRITERIA / DELIVERABLES

- 6.1. Prove the work to the satisfactory of Chief Engineer and COTR.

**LINE ITEM No. 0047    DELETED**

**LINE ITEM No. 0048    DELETED**

**LINE ITEM No. 0049    NAVIGATION BRIDGE WINDOW GLASS**

### 1. ABSTRACT

- 1.1. It is the intent of this Item to describe the requirement to replace three (3) clear view windows in Navigation Bridge to safety glass.

2. REFERENCES

2.1. None

3. LOCATION / DESCRIPTION:

3.1. Navigation Bridge, Fwd.

3.2. Window size is 31-3/16" High x 25-3/16 Wide.

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Disconnect the clear view electrically, unbolt and remove the clear view window from the hinge, put the hinge pin back into the hinge for reinstall the window. Seal the window opening with plywood.

5.2. Disassemble the window frame and remove the clear view assembly with the window glass, turn over the removed clear view and window glass to ship's force.

5.3. Clean the window frame and prepare for installation new safety glass. Provide new safety glass to replace the removed clear view window glass, the quality and size of the new windows glass shall be the same as the removed windows glass. Install the new window glass with new gasket/seal.

5.4. Upon completion of the window glass change out, reinstall the windows back to the window frame and hinge. Renew the window gaskets/seals.

5.5. Hose test the repaired windows from outside and prove it in water-tightness to Chief Officer.

5.6. Clean the work area and remove all the debris generated from this Item.

6. PERFORMANCE CRITERIA / DELIVERABLES

6.1. Prove all the work to the satisfaction of Chief Officer and COTR,

**LINE ITEM No. 0050 ANCHOR WINDLASS HYDRAULIC OIL TANK**

1. ABSTRACT

1.1. It is the intent of this item to describe the requirement to repair the crack on hydraulic oil tank welds.

2. REFERENCES

2.1. None

3. LOCATION / DESCRIPTION:

3.1. Main Deck, Fwd, Deck Store Room. Anchor windlass hydraulic pump package.

3.2. Mfr: New England Trawler Equipment Company  
27/16 Electro-Hydraulic Anchor Windlass, Model X-1924, Serial # 25047

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

- 5.1. Pump and drain approximately 65 gallons of hydraulic oil from the anchor windlass hydraulic oil tank and store to a contractor furnished clean storage container. The container shall be inspected by COTR and Chief Officer prior to store the hydraulic oil. Upon the repair is completed, the hydraulic oil shall be restoring back to the hydraulic tank. Approximate size of the hydraulic tank is 4'0" high x 6'0" long x 6" wide.
- 5.2. Open, clean and gas free the hydraulic oil tank for "hot work" provide services of Marine Chemist to inspect the hydraulic oil tank and issue Marine Chemist Gas Free Certificate with condition of "Safe for Hot".
- 5.3. Perform air tests on the hydraulic oil tank and mark the leaks on the welding seam. Repair the leakage area by cleaning up the old welds and re-welding the crack areas. Upon completion, air test the new welds and prove the repaired hydraulic oil tank in tightness and no leaks.
- 5.4. Upon complete of the repairs, restore the removed hydraulic oil back to the tank with portable pump and very fine hydraulic oil filters.

6. PERFORMANCE CRITERIA / DELIVERABLES

6.1. Prove all the work to the satisfaction of Chief Officer and COTR.

**LINE ITEM No. 0051    GAS BOTTLE STORAGE RACK REMOVAL**

1. ABSTRACT

1.1. It is the intent of this item to describe the requirement to crop and remove the obsolete bottle storage rack on aft deck house 04 level deck.

2. REFERENCES

2.1. None.

3. LOCATION / DESCRIPTION:

3.1. Location: - Aft Deck House, 04 Level Deck

4. NOTES

4.1. It is the Contractor's responsibly to remove and reinstall upon completion of work any and all interferences to complete this specification.

5. STATEMENT OF WORK REQUIRED

- 5.1. Furnish labor, material and equipment to remove the bulkhead panels inside the ladder well to clear the clear work areas for hot work. Upon completion, reinstall the panels as original.
- 5.2. Crop and remove one set of 8 gas bottle storage rack on after deck house, 04 level deck. Approximately size of the rack is approximately 3'6" long x 2'6" high x 10" depth.
- 5.3. Grind all disturbed surfaces to a smooth surface, clean all the disturbed surfaces. Apply one (1) coat of primer paint and two (2) coats of epoxy paint to match the surrounding area.

6. PERFORMANCE CRITERIA / DELIVERABLES

- 6.1. Prove all work to satisfaction of Chief Officer and COTR

**LINE ITEM No. 0051 AFFF SYSTEM ISOLATION VALVES**

1. ABSTRACT

- 1.1. It is the intent of this item to describe the requirement for overhaul three (3) each butterfly valves and install one (1) new 2 inch Stainless Steel ball valve on AFFF system.

2. REFERENCE

- 2.1. None

3. LOCATION / DESCRIPTION

- 3.1. Location – Aft Deck House, Main Deck, Port Side.
- 3.2. Description – One (1) 4 inch, Butterfly Valve  
Two (2) 6 inch, Butterfly Valve  
One (1) 2" Stainless Steel Ball Valve

4. NOTE

- 4.1. None.

5. STATEMENT OF WORK REQUIRED

- 5.1. Furnish labor, material and equipment to drain the AFFF foam tank. Disconnect and remove one (1) 4 inch, butterfly valve and two (2) 6 inch, butterfly valves from the AFFF piping. Convey the removed butterfly valves to shop for complete overhaul.
- 5.2. Disassemble the butterfly valves, clean and lay out all the parts for inspection. Provide and renew rubber boots and seals. Repair the disc to have 100 percent contact seating face.
- 5.3. Upon completion, hydrostatic tests the repaired butterfly valves with 150 psi and prove it in no leak condition.
- 5.4. Return the overhauled butterfly valves to ship and reinstall them with new gaskets/O-rings and new stainless steel bolts and nuts.

5.5. Cut the AFFF Foam Tank outlet pipe to install a new 2 inch stainless steel ball valve. Provide and install a new 2 inch, full port, flanged ball valve with new gaskets and stainless steel bolts and nuts.

5.6. Upon completion, test operate the system and prove it in good operating condition and no leak on the valves.

6. PERFORMANCE CRITERIA / DELIVERABLE

6.1. Prove all work to the satisfaction of Chief Officer and COTR.

**LINE ITEM No. 0053 WEIGHT TEST SHIP STORE CRANES**

1. ABSTRACT

1.1. It is the intent of this item to describe the requirement to conduct weight tests on ship's port and starboard side store cranes and engine room skylight davit.

2. REFERENCE

2.1. None.

3. LOCATION / DESCRIPTION

3.1. Location: Ship Store Crane – O1 deck, Mid-Ship, Port and Starboard Side.  
Engine Room Skylight Davit – Aft deck house, 05 level deck.

4. NOTE

4.1. None.

5. STATEMENT OF WORK REQUIRED

5.1. Furnish labor, material and equipment to conduct weight tests on port and starboard side ship store cranes and engine skylight davit. Weight test shall be 150 percent of the normal working loads, the store crane's normal working load is 5 tons and engine room skylight davit is 2 tons.

5.2. Weight tests shall be witnessed by the ABS Surveyor. Upon completion, contractor stamp the load capacity on the crane's boom.

7. PERFORMANCE CRITERIA / DELIVERABLE

6.1. Prove all the work to satisfaction of Chief Officer and COTR.

6.2. Obtain weight test certificates from ABS Surveyor and deliver to COTR.

**OPTIONAL AND UNIT PRICED ITEMS**

**LINE ITEM No. 0054 OILY WATER, DIRTY OIL, AND SLOP REMOVAL**

1. ABSTRACT

1.1. The intent of this work Item is to allow for the disposal of oily water, dirty oil, and slops in addition to those whose disposal is required elsewhere in this specification package. Any of this additional disposal is only at the specific direction of the COTR.

2. REFERENCE

2.1. Federal, State and Local EPA Regulations.

3. LOCATION / DESCRIPTION

3.1. Contractor's Repair/Drydock Facility.

4. NOTE

4.1. None.

5 STATEMENT OF WORK

5.1. Furnish labor, material, and necessary equipment to remove and dispose of oily water, dirty oil, and slop waste from the vessel. Pump from the vessel by Contractor-furnished pump to a suitable shore side receptacle such as a road tanker, barge, storage tank, etc. and dispose of properly. All applicable Federal, State, and Local regulations regarding the disposal of waste oils shall be complied with. This item includes any ancillary work, such access to tanks and restoration of all removals. The COTR will designate tanks to be dealt with. Receipts signed by the COTR and/or his designated representative will be required EACH TIME slops are removed from the vessel under this item. Quote unit price per gallon of waste oil disposed.

5.2. The requirements of this item are IN ADDITION to any oily water, dirty oil, or slops that are removed and disposed of by the Contractor under any other work item, including general service items, in this specification. The intent of this item is to fix a rate at which ADDITIONAL oily waste can be disposed at during the repair period.

5.3. Remove and dispose 5000 gallons of waste oil/oily water/slops at the rate of \$\_\_\_\_\_/gallon for a total price of \$\_\_\_\_\_.

**LINE ITEM No. 0055      STEEL RENEWALS AND HULL WELDING**

1. ABSTRACT

1.1. The intent of this work Item is to allow for steel renewals and hull welding as their requirement becomes identified during the repair period.

REFERENCES

ABS Rules for Building and Classing Steel Vessel:  
Part 1, Classification, Testing and Surveys.  
Part 2, Material and Welding.  
Part 3, Hull Construction and Equipment.

CFR (Code of Federal Regulations) Title 46, Subchapter F "Marine Engineering".

ITEM LOCATION / DESCRIPTION

3.1. Contractor's Repair/Drydock Facility.

4. NOTE

4.1. None

5. STATEMENT OF WORK

5.1 Steel Renewals

Quote for each plate type a lump sum price to replace a 3 ft x 3 ft and a 6 ft x 6 ft plate. This price will be used to establish cost for smaller steel renewals. In addition, quote for each plate type a unit price per pound of steel (minimum quantity one long ton) cropped and renewed. This shall be used for prorating the cost of steel renewals for which the aggregate is one ton and up. Price for all shall include, but not be limited to, labor, material, equipment, staging, testing, painting, and other services as necessary in order to complete shell plating renewal. Internal structural members/stiffeners shall be quoted on a per pound basis. All materials and welding shall be in accordance with ABS and USCG requirements.

<b>LINE ITEM No. 0055AA</b>	<b>FLAT PLATE</b>
<b>LINE ITEM No. 0055AB</b>	<b>SHAPED PLATE</b>
<b>LINE ITEM No. 0055AC</b>	<b>COMPOUND PLATE</b>
<b>LINE ITEM No. 0055AD</b>	<b>BULKHEAD STEEL PLATES</b>
<b>LINE ITEM No. 0055AE</b>	<b>INTERNAL STEELS</b>

5.2 Hull Welding

Quote unit price per foot of length for repair and re-welding of wasted hull and/or rudder welds found upon examination to be necessary. Price shall include, but not be limited to, labor, material, equipment, staging, testing, painting, and any services as necessary in order to complete hull and rudder welding repairs. All materials and welding shall be in accordance with ABS and USCG requirements. Quote unit price based on the following:

<b>LINE ITEM No. 0055AF</b>	<b>GOUGE/VEE OUT AND REWELD</b>
<b>LINE ITEM No. 0055AG</b>	<b>CLEAN AND BUILD-UP WITH WELD</b>

**LINE ITEM No. 0056      DRYDOCK AND WET BERTH DAYS**

1. ABSTRACT

1.1. The intent of this work Item is to price additional days that the vessel might be in the Contractor's facility at the direction of MARAD Contracting Officer. These days would be ONLY those required AT THE SPECIFIC REQUEST of MARAD Contracting Officer. Additional days due to Contractor's delay shall be for the Contractor's account.

1. REFERENCE

1.1. None.

2. ITEM LOCATION / DESCRIPTION

3.1. Contractor's drydock/repair facility.

4. NOTE

4.1. None.

5. STATEMENT OF WORK

**LINE ITEM No. 0056AA            HAUL DAY**

In addition to the firm-fixed price for drydocking in Item 201, the Contractor shall provide the cost for additional haul day for the vessel. This cost is the complete cost for one cycle of docking/undocking of the vessel. If the reason for redocking the vessel is due to the Contractor, this item will not be used.

**One (1) Haul Day \$ \_\_\_\_\_**

**LINE ITEM No. 0056AB            DRYDOCK LAY DAY**

In addition to the firm-fixed price for drydocking in Item 201, the Contractor shall provide the cost for additional days of vessel in drydock. Cost of this item shall be complete cost of additional days on Contractor's drydock when vessel is required to remain on drydock at MARAD request. If the reason for extended drydock is due to Contractor's delay or normal work, this item will not be used.

**One (1) Drydock Lay Day \$ \_\_\_\_\_**

**LINE ITEM No. 0056AC            WET DOCK LAY DAY**

In addition to the firm-fixed price for drydocking in Item 201, the Contractor shall provide cost for additional days for the vessel to be in Contractor's facility at a wet berth. Cost shall be complete including all general services in Items 101 - 125. This shall include berth, shore power, water, and all other services. This item will be used if it is MARAD's request to remain in Contractor's facility. If the reason for extended repair period is due to Contractor's delay, this item will not be used.

**One (1) Wet Dock Lay Day \$ \_\_\_\_\_**

**LINE ITEM No. 0057    TANK VENT PIPE RENEWAL**

1. ABSTRACT

1.1. The intent of this work item is to work in conjunction with Work Item No. 209 "Tank Vent Repair" and to allow to renew the deteriorated vent pipes as request be ABS Surveyors and USCG Inspectors.

1. REFERENCE

1.1. CFR 46, Chapter I, Sub-Part 56.50-85 "Tank-vent piping"

2. ITEM LOCATION / DESCRIPTION

2.1. Weather decks.

3. NOTE

- 4.1. Contractor is required to provide a separate item price to renew tank vent pipes as their requirement becomes identified during the repair work on Item 209.

#### STATEMENT OF WORK

- 3.1. Furnish labor, material, and necessary equipment to fabricate new vent pipes as directed by the CORT. All new vent pipes shall be comply with Reference 2.1. Requirement and provided with steel pipe flange connections, 180 Degrees "U" bend, non-return ball check valve, mesh screen and cover. All 1.5 inch vent pipe shall be provided with Tate Tempco, Type 52-25V or equal non-return ball check valve assembly, for 2 inch to 4 inch vent pipes shall be provided with Tate Tempco 52-40T or equal non-return ball check valve assembly. All new vent pipes shall be fabricated from ASTM A106 GR B seamless ABS Schedule 80 steel pipes with 180 Degree downstream "U" bends. Blast clean the vent pipe exterior surfaces to near white metal surface and apply new coating in accordance to MARAD Coating Guidance Manual.
- 3.2. After the fabrication is completed, convey the new vent pipes to ship and install to its individual deck penetration connector with new gaskets and 316 stainless steel bolting material.
- 3.3. Quote for each size of vent pipe listed as follow, prices shall be including all work requirement specified in 5.1 and 5.2 in this work item.

**LINE ITEM No. 0057AA     1 1/5 inch vent pipe**

**LINE ITEM No. 0057AB     2 inch vent pipe**

**LINE ITEM No. 0057AC     2 ½ inch vent pipe**

**LINE ITEM No. 0057AD     3 inch vent pipe**

**LINE ITEM No. 0057AE     4 inch vent pipe**

**LINE ITEM No. 0058     DELETED**

#### **LINE ITEM No. 0059            SUPPLEMENTAL GROWTH REQUIREMENTS**

The Government may have supplemental requirements due to emergent or additional work. The Government reserves the right to order any quantity cited in individually priced supplemental work Items. In the event that less than the total quantity of supplement work item is ordered, the Government will decrease the contract for the quantity not ordered at the award supplemental item unit price. The COTR will issue a Delivery Order for all growth Items.

#### **LINE ITEM No. 0059AA SUPPLEMENTAL LABOR**

Contractor is to furnish a quote for 2,000 man-hours of supplemental labor at a unit rate per man-hour. This is to a fully burdened labor rate, and is applicable seven days a week (i.e. no overtime, penalty time or other escalations will apply). These hours will only be allocated for industrial labor – supervision, management, QA, yard maintenance and other such labor is considered part of the rate burden.

All contractor-submitted prices for Supplemental Labor shall be documented by a work structure breakdown on a Contractor developed estimating form, which shall be submitted as an attachment to the Request for Pricing. Supplemental hours will be allocated by the COTR via Delivery Orders.

No oral directions are to be accepted by the Contractor or his personnel from any individual other than the COTR. Any oral direction provided by the COTR other than guidance on existing tasking shall be documented via Delivery Order Request for Pricing within 24 hours. All tasking provided by the COTR will normally be in writing, and no work shall be begin on any tasking of an other than emergency nature until received by the Contractor, negotiated and settled by the COTR and/or the Contracting Officer.

#### **LINE ITEM 0059AB SUPPLEMENTAL MATERIAL**

Contractor is to provide allowance for up to \$120,000 in Supplemental Material and Sub-Contractors charges. There is to be **no burden** on these charges for either subcontractor costs or material charges. The supplemental material dollars will be allocated by the COTR via Delivery Orders.

The Contractor is to provide to the COTR invoices for goods or services applicable to Supplemental Material charges for each Delivery Order with material charges in excess of \$500. Retainage will not be released until these have been received and approved by the COTR.

Cost adjustments (plus or minus) related to the reconciliation of estimated to actual charges will be made prior to contract closeout. In order to expedite closeout, it is recommended that such invoice support be submitted to the COTR upon completion of each tasking.

#### **LINE ITEM 0060 ECHO SOUNDER TRANSDUCER REPLACEMENT**

##### 1. ABSTRACT

1.1. This item describes the requirement to remove the existing Raytheon Echo Sounder transducer and replace with MARAD furnished two (2) new Furuno Echo Sounder transducers.

##### 2. REFERENCES

2.1. None

##### 3. LOCATION/DESCRIPTION

3.1. Transducer Trunk – Frame 35 to 47

3.2. Manufacturer Data:

Existing Echo Sounder – Raytheon Sounder

New Echo Sounder – Furuno Echo Sounder, Model: FE-1700

##### 4. NOTES

4.1. This work Item shall be in conjunction with all the other drydock Items

##### 5. STATEMENT OF WORK REQUIRED

5.1. Furnish labor, material, staging, equipment, etc., as necessary to accomplish this work Item while the ship on drydock.

5.2. Provide services of naval architect to perform ship check and prepare lay out drawing to cut the ship bottom steel plate for remove the existing echo sounder transducer and install two (2) new echo sounder transducers, approximately size of steel plate to be cut is 3'6" x 6'0". Submit the prepared drawing to on site MARAD COTR for approval. Upon the approval is grant from MARAD COTR, submit the drawing to local ABS Surveyor and USCG Inspector(s) for review and approval. All the cutting and welding procedure shall be

in accordance with ABS and USCG Regulation/Requirement; all material shall be approved by ABS.

- 5.3. Open, clean and gas free Transducer Trunk (Fr. 35 to 47) and the adjacent tanks for hot work. Provide Services of Marine Chemist to check the work areas and issue Marine Chemist Certificate with condition of "Safe for Men" and "Safe for Hot Work", post a copy of the Marine Chemist Certificate on the ship's gangway area and a copy deliver to MARAD COTR.
- 5.4. Disconnect the transducer cable on the existing Raytheon Echo Sounder, save the cable on side for ship crew to remove on later time.
- 5.5. Remove the existing transducer from its housing and turn over to the ship's officer.
- 5.6. Lay out and cut the ship's bottom steel plate as the ABS approved drawing. Clean and prepare the cutting seams/butts for fit and install new steel bottom plate. The new steel plate shall be fabricated with ABS approved steel plate; thickness of the new steel plate shall be same as the removed steel plate.
- 5.7. Arrange and provide manufacturer authorized service engineer to mark the location and supervise the transducer installation. All welding procedures shall be in accordance with manufacturer's installation specification. The transducer tank/casing shall be welded flush with the ship's hull plate and should not recede from the hull plate. To avoid distortion by heat before welding, install the transducer fixing flange without transducer, damper and gaskets, the fixing flange shall be in place all time while welding. One (1) 200KHZ and One (1) 50KHZ Transducers to be installed.
- 5.8. Upon completion of welding, perform vacuum box tests on all welds in presence of ABS Surveyor(s), USCG Inspector(s), MARAD COTR and Ship's Officer(s)/Engineer(s).
- 5.9. When the new welds are completed and approved by ABS, USCG and MARAD COTR approved, unbolt and remove the fixing flange. Clean all the components and prepare to install the new transducers. Install the new transducers from outside the ship's hull with new gaskets, after mounting the transducer fill the space in mounting bolts, the spaces between the fixing flange and casing with silicone sealant.
- 5.10. Upon completion of the transducers installation, cover the transducers' face with protective covers.
- 5.11. Sandblasting clean the new steel surface and the disturbed surfaces around the new installation areas to Near-White Surface, SSP-PC-10 and apply new coating as per under water hull coating system. The internal surfaces shall be vacuum blasted to Near-White Surface, SSP-PC-10 and apply new coating as per Transducer Trunk internal coating system.
- 5.12. When the ship in water and while still on drydock check the new installed transducers for watertightness and repair any leaks to the satisfaction of Chief Engineer and MARAD COTR.
- 5.13. Clean all the work areas and remove all debris off ship, left the ship good cleaned condition.

## 6. PERFORMANCE CRITERIA/DELIVERABLE

- 6.1. Prove all the work to the satisfaction of COTR and Ship's Officers.



damage and bend. Transport the cooler plates to ship and rig into the cooler installation locations and prepare for reinstallation.

Reinstall the cooler plate back to the cooler in accordance with manufacturer's specification.

Test operating the coolers and repair leaks to the satisfaction of Chief Engineer.

**LINE ITEM No. 0062 MAIN PROPULSION CLUTCH, REDUCTION GEAR AND REDUCTION GEAR OIL COOLERS INSPECTION**

ABSTRACT

This item describes the requirement for open up the main propulsion clutch, reduction gear and reduction oil coolers for ABS Surveyor(s) to conduct Special Machinery Survey # 4.

REFERENCES

2.1. ABS Rule Requirement for "Survey after Construction"

ITEM LOCATION/DESCRIPTION

Manufacturer Data:

Clutch and Reduction Gear:

Mfr: Lohmann & Stolterfoht GmbH  
Postbox 18 60  
D-5810 Witten  
Germany

Clutch – Type: Pneumaflex KAP 410, Mod. 1000

Reduction Gear – Type: GVE 2050/A

3.1.2 Reduction Oil Cooler:

Mfr: Heat Transfer Division, American-Standard  
Type: 17078 CPK Shell and Tube

3.2. Location: Engine Room, Low Level, Aft

4. NOTES

4.1. ABS Rule Requirement for "Survey after Construction"

5. STATEMENT OF WORK REQUIRED

5.1. Provide labor, material and equipment to open up main engine clutch and reduction gear for ABS Surveyor(s) to conduct Special Machinery Survey # 4.

5.2. Make removal and reinstall interferences as necessary to clear the work areas on main engine clutch, reduction gears and reduction gear oil coolers

5.3. Arrange and provide manufacturer service engineer to supervise disassemble and reassemble the main engine clutch.

5.4. Disassemble the main engine clutch, clean all the parts and lay out for Inspection.

Upon completion of inspection, reassemble the main engine clutch with new gaskets and seals.

Open up main engine reduction gear inspection covers, clean all the gear teeth check the gear teeth contacts. Use "blue check" procedure to check and record the percentage of gear teeth contacts in presence of ABS Surveyor(s), Chief Engineer and MARAD COTR. Upon completion, close the reduction gear inspections covers with new gaskets.

Disconnect lube oil and cooling water piping on both reduction oil coolers on top of the reduction gear oil cooler platform to clear the work areas for disassemble the reduction gear oil coolers.

Open and remove all the water boxes, headers and covers. Clean all the tubes with tube cleaning brush and prepare the reduction oil coolers for ABS Surveyor(s) to conduction inspections. Air or Hydro test the cooler shells with 1-1/2 of working pressure in presence of ABS Surveyor(s), Chief Engineer and MARAD COTR.

Upon completion, reinstall the water boxes, headers and covers with new gaskets. Reconnect all the removed piping as original with new gaskets.

#### PERFORMANCE CRITERIA/DELIVERABLES

Contractor shall arrange and schedule ABS Surveyor(s) for the specified inspections.

6.2. Prove all the work to the satisfaction of COTR and Chief Engineer.

#### **LINE ITEM No. 0063 MAIN PROPULSION THRUST BEARING AND LINE SHAFT BEARINGS**

##### 1. ABSTRACT

1.1. This item describes the requirement for open up main propulsion thrust bearing and two (2) line shaft bearings for ABS Surveyor(s) to conduct Special Machinery Survey No. 4.

##### 2. REFERENCES

2.1. ABS Rule Requirement for "Survey after Construction"

##### 3. ITEM LOCATION/DESCRIPTION

3.1. Location: Engine Room aft and shaft alley.

3.2. Manufacturer Data:

Thrust Bearing – Waukesha Bearing Corporation

Type: Self Leveling Pad

Size: 43.5 – 10x10

RPM: 140,

HP: 25,000

Remarks: TM 337

Line Shaft Bearings – Waukesha Bearing Corporation

Type: Self Aligning Line Shaft Bearing Assembly

063000145000.

Serial No. 1E 734562H (Fwd & Aft bearing)

4. NOTES

4.1. None

5. STATEMENT OF WORK REQUIRED

5.1. Provide labor, material and equipment as necessary to accomplish the work requirement specified within this work item.

5.2. Arrange and provide manufacturer service engineer to supervise all the work on thrust bearing.

5.3. Make removal and restore of interferences as necessary to clear the work areas for open the thrust bearing and line shaft bearings for ABS Special Machinery Survey No. 4.

5.4. Disconnect and remove all piping on top of the thrust bearing for open and remove the thrust bearing top cover. Reinstall all the removed piping with new gaskets upon the thrust bearing inspection is completed and as directed by the COTR.

5.5. Unbolt and open the thrust bearing under supervise of manufacturer service engineer. Before lift the top cover off the thrust bearing heavy plastic protective cover shall be installed on the top cover opening to protect thrust bearing for contamination.

5.6. Check and inspect all the parts and record thrust block/shoes clearance. Prepare the thrust bearing for ABS Surveyor(s) to conduct Special Machinery Survey.

5.7. Upon completion of ABS survey, reassemble the thrust bearing assembly under supervise of manufacturer service engineer. Provide and renew gaskets and seals as listed but limited to as below:

Two (2) each, Preformed Packing, 0.375" diameter x 70.00" long, P/N 000-280-166-021

Two (2) each, End Seal Gasket, P/N 000-280-275-000

Two (2) each, Floating Seal Ring, P/N 000-290-137-000

Two (2) each, Shim Plate, P/N 000-140-742-000

5.8. Drain all the lube oil off the thrust bearing sump, flush the thrust bearing with provided new oil. Fill the thrust bearing sump to normal operating oil level with contract provided new Meropa 150 lube oil. Contractor shall provide one (1) 50 gallon drum of Meropa 150 Lube oil, after refill the line shaft bearing sumps, the remains lube oil shall be turn over to the ship's force.

5.9. Open up fwd and aft line shaft bearing for ABS Surveyor(s) to conduct Special Machinery Survey. Lift and remove line shaft bearing top cover, remove the bearing top half and roll out bottom half for ABS Surveyor(s) to conduct inspection. Drain all the lube oil in the bearing sump, clean the sump and remove all debris and foreign matter.

5.10. Upon completion of ABS inspection, reassemble the line shaft bearing assemblies as original with following contractor provided new gaskets and seals on each line shaft bearing:

Two (2) each, Performed Packing, P/N 000-280-188-003

Two (2) each, End Seal Gasket, P/N 000-280-265-000

Two (2) each, Cover Gasket, P/N 000-280-263-000

One (1) each, Inspection Cover Gasket, P/N 000-280-263-000

One (1) each, Connector Gasket, P/N 000-280-278-000

- 5.11. Refill the line shaft bearing with Contractor provide new Rando HDZ 68 lube oil to normal operating level. Contractor shall provide one (1) 50 gallon drum of Rando HDZ 68 Lube oil, after refill the line shaft bearing sumps, the remains lube oil shall be turn over to the ship's force.
  - 5.12. Reinstall all the removed interferences as original.
6. PERFORMANCE CRITERIA/DELIVERABLES
- 6.1. Prove all the work to the satisfaction of COTR and Chief Engineer.

#### **LINE ITEM No. 064 FUEL OIL HEATERS**

1. ABSTRACT
  - 1.1. This item describes the requirement for open up the Fuel Oil Heaters for ABS Surveyor(s) to conduct Special Machinery Survey.
2. REFERENCES
  - 2.1. ABS Rule Requirement for "Survey after Construction"
3. ITEM LOCATION / DESCRIPTIONS
  - 3.1. Location: Engine Room, Low Level, Port Side, Aft
  - 3.2. Manufacturer Data: Kupke & Wolf  
Type: V16-2P-L=100
4. NOTE
  - 4.1. None
5. STATEMENT OF WORK REQUIRED
  - 5.1. Provide labor, material and equipment to accomplish all work requirement listed within this work item.
  - 5.2. Drain all the remain IFO 180 fuel oil inside the Fuel Oil Heater No.1 and 2 heater shell, dispose the remove fuel oil in accordance with Local, State and Federal Government EPA Regulations. Clean all the disturbed areas and maintain engine room spaces in "Safe for Men" condition. If any "hot work" performed around the areas, contractor shall clean and maintain the areas for "Safe for Hot Work".
  - 5.3. Disconnect and remove all the fuel oil and steam piping on both No. 1 and No. 2 Fuel Oil heater to clear the work areas to work on the Fuel Oil Heaters. Upon the inspection and work completed, reinstall all the removed fuel oil and steam piping as original with new gaskets.
  - 5.4. Unbolt and remove steam heating tube assembly/element from both No. 1 and No. 2 Fuel Oil Heater. Covey the removed steam heating assembly/element to shop for cleaning and hydro tests. Clean and remove all fuel oil from heating element with chemical or diesel fuel. Clean the tube steam side with tube cleaning brush and compressed air.

- 5.5. Upon the cleaning is complete, perform hydro tests with 1-1/2 time of working pressure in presence of ABS Surveyor(s), COTR and Chief Engineer. When directed by COTR return the heating assembly/element to ship and prepare for reassemble.
- 5.6. Provide steel blanks to blank off the openings on No.1 and No.2 heater shells and perform air tests in presence of ABS Surveyor(s), Chief Engineer and COTR.
- 5.7. Reassemble the heating assemblies/elements as original with new gaskets.
- 5.8. Reinstall all disconnect and removed fuel oil and steam piping as original with new gaskets.
- 5.9. Repair damaged and disturbed insulations on piping and fuel oil heater housing.
- 5.10. Clean the work areas and left in good working condition.

6. PERFORMANCE CRITERIA/DELIVERABLE

- 6.1. Prove all the work to the satisfaction of Chief Engineer and COTR

SOW Section	SOW Para	Question or Clarification Request	Response
5		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	Offeror to estimate based to volume of water used to clean bilges and drain wells.
5	5.3	Please confirm that this item refers to the tank tops only.	No. It refers to the entire engine room, MSD room and shaft alley bilge/tank top surface.
6		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	See CLIN 0006, Para 5.1
7		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	This is a general requirement for garbage and trash to be removed daily from the ship. HAZMAT is part of the requirement.
12	3.1	Can the Contractor connect to the ship's fire connection versus providing hose manifolds?	Yes.
17	5.1	Will this requirement be 24/7 for the entire availability period?	Yes.
23		Please provide general arrangement, blocking plan; applicable rudder and steering gear drawings.	Requested drawings are provided as part of this amendment.
24	5.2	Please clarify that you want a total mil thickness only to match the adjacent paint thickness and not 28.0 mils.	The existing coating system is 28 mils from bare metal surface. It is required all spot-blasted "near white metal" surfaces shall be "built up" to the same thickness as and evenly bonded to the existing coating system before applying the full coating specified in 0024-5.12.1.2.
24	5	Please furnish square foot area of sea chest	Please refer to Docking Plan provided with this amendment. There are 4 sea chest that are 40 SF and 1 that is 17 SF.
24	5	Furnish rudder, propeller and stern	These drawings will be provided to

		tube/tail shaft detail drawings.	awardee. Drawings may be reviewed on board vessel prior to proposal due date.
31	6	Please list ship's tools available for use on this item.	Ship only has special tools for propeller hub and hydraulic shaft coupling dismantle/reassemble.
32	3.2 & 5.4	States that the aft bearing is a JMT MK II #670. Section 5.4 states the aft bearing is a JMT MK II #630. Please confirm the correct seal kit number.	
33		Please verify that piping flange gaskets are not required to be replaced.	That is correct.
34		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	Offeror to estimate based to volume of water used for cleaning and gas-freeing the fuel oil tanks.
35	5.3	SOW requires that "All tanks shall be high-pressure washed (3000 psi) with fresh water prior." Would a 150 psi wash down be acceptable?	No.
35		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	Offeror to estimate based to volume of water used for cleaning and gas-freeing the sea water ballast tanks.
36	5.3	SOW requires that "All tanks shall be high-pressure washed (3000 psi) with fresh water prior." Would a 150 psi wash down be acceptable?	No.
36		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	Offeror to estimate based to volume of water used for cleaning and gas-freeing the fresh water ballast tanks.
37	5.3	SOW requires that "All tanks shall be high-pressure washed (3000 psi) with fresh water prior." Would a 150 psi wash down be acceptable?	No.
37		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	Offeror to estimate based to volume of water used for cleaning and gas-freeing the fresh and potable water tanks.
39	3.1	What is the square footage of tanks listed?	See revised SOW language for Contract Line Item No. 039
39	3.1	Will open grit blasting be allowed?	Open Grit Blasting will NOT be allowed.
41		Please provide a number of shots required, for bid purposes, on Audio Gauging.	Approximately 520 readings are required.
43		When was the duplex strainer initially purchased? If the strainer is old style, it is possible that replacement parts are not available. Please examine the casting and provide any numbers available.	<p>Please contact the manufacturer:</p> <p>Mueller Steam Specialty 1491 NC Hwy St. Pauls, NC 28384 1-800-334-6259</p> <p><a href="http://www.muellersteam.com/">http://www.muellersteam.com/</a></p> <p>Repair Parts can be purchased from the following Company:</p> <p>Piping Specialties Corp., 84 Wall Street</p>

			<p>Farmingdale, NY 11735 Tel: (631) 752-0140 POC: Robert Gordon</p> <p>Replacement parts must designated "Old Style" Like Model # 692 Duplex Strainer (Old Style). Numbers observed on the strainers are:</p> <p>Size 12" = 120-691-02 (old style)</p> <p>Size 14" = 140-691-02A (old style)</p> <p>No number was on the 5 inch Strainer.</p>
46	5.2	Please confirm that the Contractor will be required to provide an access in the vertical panel adjacent to the valve.	Yes as required by Para 4.1 of this item.
47		What is estimated square footage of MSD Lift Station Compartment?	Dimensions needed to estimate square footage are found in paragraphs 3.1 through 3.4
47		Will Ameron coating products be allowed in the MSD tanks in lieu of Carboline since the Ameron paint representative will be on site?	No substitution of coating products will be allowed.
47		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	Offeror to estimate based to volume of water used for cleaning and gas-freeing the MSD tanks plus the sewage.
47	4.3	4.3 states crew required to blank lines. 5.2 requires the Contractor to do the same.	Any inference from Para 4.3 that crew will blank off the lines is a misinterpretation of this requirement. The contractor is to verify with Chief Engineer which lines shall be blanked off to isolate the MSD system and re-route sewage to the contractor's shore connection. Para 5.2 requires the contractor to blank-off the MSD tanks' piping openings and use system by-pass lines for shore connections as directed by Chief Engineer.
49		What is the thickness of the glass for the Navigation Bridge Window Glass?	Approximately 1/2" thick
49		Please confirm that the "clear view" mechanisms are no longer desired and replacements will match the Bridge's other windows.	That is correct.
50		What is estimated quantity of fluids and HAZMAT material to be pumped and disposed of?	Offeror to estimate based to volume of water used for cleaning and gas-freeing the anchor windlass hydraulic oil tank.
51		Please confirm that removing bulkhead panels is NOT a requirement (grinding on exterior is all that's necessary).	Removal of bulkhead panels is required only if contractor's approach this item entails hot work. If hot work is not involved, bulkhead removal is not necessary.
54		Please provide the applicable wire specifications to verify the weight requirements.	This item does not involve removal of wire.

57		Please confirm that the piping is from the flange above the deck, and not the deck penetration portion.	That is correct.
58	5.2	Clarification is requested as to whether MIL-T-1368 seamless copper nickel pipe or MIL-T-16420K 90/10 copper nickel pipe is required. Clarification is requested if bronze silver solder fittings and flanges or 90/10 copper nickel weld fittings and flanges are to be installed.	
58		Please confirm that the salt water cross-over line can be installed in the overhead as well. Confirm type of valve required (no throttling req'd per C/E).	The salt water cross-over line may be installed on the engine room lower level overhead area assuming proper coordination with existing pipes. Bronze gate isolation valves shall be installed locally next to the manifolds.
61		What are the plates made out of (titanium or otherwise)?	The cooler plates are made of titanium.