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	PIIN/SIIN DAAE07-01-D-T064/0001 MOD/AMD 30	
Name of Offeror or Contractor: BOLLINGER / INCAT USA, L.L.C.		

SECTION A - SUPPLEMENTAL INFORMATION

1. Modification 30 is a supplemental agreement to definitize the HSV Phase II Maintenance effort that was established at individual ceiling prices and partially funded in the amount of \$2,599,998 under Modification 27, Clins 002AA, 002AB and 002AC respectively.

2. Modification 27 established a ceiling price of \$5,212,361 and subsequent individual ceiling prices were established in the amount of \$1,143,081 for a total ceiling price of \$6,355,442. The final negotiated amount for the maintenance effort is \$5,505,637.

3. Clin 0002AD is hereby established in the amount of \$2,905,639 to fund a portion of the negotiated amount.

4. The funded amount of the Phase II Maintenance effort is allocated as follows:

a. Prior funded amount under Clins:	0002AA - \$1,266,269
	0002AB - 1,032,085
	0002AC - <u>301,644</u>
	Subtotal \$2,599,998
b. Funded amount this action under Clin: 0002AD - \$2,905,639	
Grand Total \$5,505,637	

5. The following clauses that were established under Modification 27 are hereby deleted in their entirety
 - H-1 52.216-23 EXECUTION AND COMMENCEMENT OF WORK
 - H-2 52.216-24 LIMITATION OF GOVERNMENT LIABILITY
 - H-3 52.216-25 CONTRACT DEFINITIZATION
 - H-4 252.217-7027 PRICE CEILING

6. As result of this action the value of the contract is hereby increased by \$2,905,639 from \$10,076,101 to \$12,981,740.

7. The contractor and the Government fully hereby acknowledge that any and all claims arising for adjustment the Contractor may have on the above CLIN are fully satisfied in the above adjustment, and the Government is hereby released from any liability from this CLIN.

8. Except for the changes contained herein, all other terms and conditions remain unchanged and in full force and effect.

*** END OF NARRATIVE A 032 ***

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ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT										
0002AD	<p>SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS</p> <p><u>SERVICES LINE ITEM</u></p> <p>NOUN: HSV PHASE 2 MAINTENANCE PRON: P146PC642T PRON AMD: 02 ACRN: AJ AMS CD: 65480446100</p> <p><u>Inspection and Acceptance</u> INSPECTION: Destination ACCEPTANCE: Destination</p> <p><u>Deliveries or Performance</u></p> <table border="0"> <tr> <td>DLVR SCH</td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> </tr> <tr> <td>001</td> <td>1</td> </tr> <tr> <td></td> <td><u>DATE</u></td> </tr> <tr> <td></td> <td>30-JUL-2004</td> </tr> </table> <p style="text-align: right;">\$ 2,905,639.00</p>	DLVR SCH	PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u>	001	1		<u>DATE</u>		30-JUL-2004	1	LO		\$ 2,905,639.00
DLVR SCH	PERF COMPL														
<u>REL CD</u>	<u>QUANTITY</u>														
001	1														
	<u>DATE</u>														
	30-JUL-2004														

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SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

HSV-X1 Phase II Maintenance - Ship Yard Repair
Statement of Work (SOW)

C.86 The Contractor shall provide the labor and materials to repair the following items on HSV-X1. Reference paragraphs C.86 thru C.155.

C.87 The Contractor shall provide the dry-docking facility and ship preparations to dry-dock the vessel. This includes power, security, dock rental, water, waste disposal, machine rentals and tooling requirements, etc. The time in dry-dock is 37 days. The Government will deliver the vessel to the dry-docking cite in Hobart, Tasmania. The contractor shall notify the Government of any additional tasks if required. The Government representative will inspect these items during acceptance. The following tasks are recommended for maintenance while the ship is in the dry-dock facility. The dry-docking time is scheduled for October 1, 2003 through Nov 24, 2003.

C.87.1 Provide Project Management - TBD

C.88 Forward Lounge Overhead Repairs

C.88.1 The Contractor shall remove overhead panels to allow inspection of deckhouse plating, framing and antenna foundations.

C.88.2 The Contractor shall inspect all stuffing tubes for signs of water intrusion. The Contractor shall inspect framing and antenna foundations for cracking by visual inspection and dye penetrant inspection.

C.88.3 The Contractor shall grind out and repair all cracks found during this inspection. The Contractor shall reseal all stuffing tubes that show evidence of leakage.

C.88.4 The Contractor shall clean all overhead panel components to make them free of mildew, salt residue, dirt or other foreign matter.

C.88.5 The Contractor shall reinstall all removed overhead panel, replacing missing panels and defective securements as required to install the panels.

C.88.6 The Contractor shall leave passenger lounge ready for service. The Contractor shall remove all trash and excess materials from the passenger lounge.

C.89 Waterjet Repairs

C.89.1 The Contractor shall make all removals required to allow repairs of waterjet ducts.

C.89.2 The Contractor shall perform welding repairs required to repair deteriorated areas of four (4) ea. waterjet ducts.

C.89.3 The Contractor shall perform machining required to restore water duct configuration to design dimensions.

C.89.4 The Contractor shall reassemble all removals and replace missing or defective securements as required.

C.89.5 Leave waterjets ready for service.

C.89.6 The waterjets shall undergo a sea trial to make sure that they are functioning properly. The Contractor shall make any repairs after the sea trials to make the waterjet ducts fully functional.

C.90 Crew Berthing Repairs, Port and Starboard Berthing Areas

C.90.1 The Contractor shall make all removals required to remove all carpeting from port and starboard permanent crew berthing compartments. The Contractor shall replace the carpet with chlorine-free Safe Tred non-slip flooring. The Contractor shall remove and install new bunks, lockers and mattresses and shall build privacy bulkheads for crew berthing.

C.90.2 The above effort shall include the following:

C.90.2.1 Removal of bunks/lockers/desks and other equipment to include bunk structure.

C.90.2.2 Removal of remaining carpet

C.90.2.3 Electrical disconnection and reconnection to include all reading lights

C.90.2.4 Make good floor surface for new flooring

C.90.2.5 Supply and installation of new Safe Tred flooring

C.90.2.6 Construction of Hexcore panel bulkheads for crew privacy

C.90.2.7 Supply and installation of new curtains, tracks, etc.

C.90.2.8 Supply and installation of new bunks wit drawer units

C.90.2.9 Supply of new mattresses

C.90.2.10 Allowance for replacement of ceiling panels

C.90.2.11 Provide labor and materials to design placement of bunks/lockers/desks.

C.90.3 The Contractor shall install deck covering to port and starboard crew berthing compartments.

C.90.4 The Contractor shall reinstall all removals, replacing missing, defective or incorrect securements as required.

C.90.5 The Contractor shall install one double 240vac receptacle in the Starboard female cabin and one double 240vac receptacle in the Port cabin area.

C.90.6 The Contractor shall secure and provide chaffing protection to electrical cables and antenna co-axial cables in deckhead, voids and in ceiling spaces while working in the Crew Berthing Repairs in Port and Starboard Berthing Areas.

C.90.7 Leave crew berthing spaces ready for service.

C.91 Underwater Hull Cleaning and Painting

C.91.1 The Contractor shall blank hull openings as required to water blast underwater hull surfaces of the vessel.

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C.91.2 The Contractor shall abrasive blast to near white metal, all surfaces of the underwater hulls, trim tabs, waterjets, T-foils, T-foil covers, and all appendages and attachments. The abrasive media shall be suitable for aluminum hulls.

C.91.2.1 All blasted surfaces shall be inspected by the attending Ship Surveyor prior to application of primer paints.

C.91.3 HSV-X1's current underwater paint system contains TBT. Contractor shall adhere to all Federal, State and local safety and environmental regulations, while removing existing paint system and disposing of residue.

C.91.4 All paint application shall be performed in accordance with all manufacturers requirements for ambient air temperature, surface temperature, relative humidity, dew point and dry film thickness.

C.91.5 The Contractor shall apply one (1) coat of Akzo Nobel Intertuf or equal to all bared surfaces.

C.91.6 The Contractor shall apply two (2) coats of Akzo Nobel Interspeed 2000, or equal to all primed surfaces.

C.91.7 The final finish coat shall be black.

C.91.8 The above effort includes the following:

C.91.8.1 High pressure water blasting

C.91.8.2 Supply of Akzo Nobel Interspeed 2000 paint

C.91.8.3 Supply of Akzo Nobel Intertuf for touching up

C.91.8.4 Supply of Akzo Nobel primer Intertuf 203

C.91.8.5 Primer Paint application

C.91.8.6 Paint application

C.91.8.7 Cherry picker hire

C.91.8.8 Scaffolding erection and dismantling

C.92 Galley Replacement Design

C.92.1 The Contractor shall provide engineering support to design a galley for hull 050, meeting all applicable DnV requirements and capable of supporting 40 permanently assigned crew. This design should also take into consideration the capability of being able to support embarked troops in number of 300.

C.92.2 The Galley shall include a minimum of the following capabilities: range, griddle, dish washer, sanitizer, reach in refrigerators and freezers, disposal, trash compactor, hot and cold serving lines, clean up/discard area, and food prep area. Galley shall have DnV approved fire suppression systems, to include hoods and roll doors, and fire bulkheads/doors.

C.92.3 This design shall be submitted to the Government with an estimated cost.

C.92.4 Upon acceptance of the galley design above by the Government and notification by the Contracting Officer, the Contractor shall proceed to implement this design. The Contractor shall provide production drawings for fabrication and installation of all galley modifications.

C.92.5 Galley work shall include the following:

C.92.5.1 Construction of new bulkheads floors and perimeter walls to A60 boundary fire protection, incl. ceilings, walls, floor, doors, etc

C.92.5.2 Construction of new serving area

C.92.5.3 All electrical connections, penetrations, etc to comply with smoke regulations

C.92.5.4 All plumbing requirements

C.92.5.5 Installation of a new dishwasher and trash compactor (on vehicle deck)

C.92.5.6 Relocation and reinstallation of fridges, freezers, other kitchen equipment

C.92.5.7 Installation of exhaust hoods, fans and thru to roof penetrations

C.92.5.8 Sprinkler relocation and modification

C.92.5.9 Air exhaust modifications

C.92.5.10 The Contractor shall install the following equipment:

C.92.5.10.1 This list shall be provided later

C.92.6 The Contractor shall secure and provide chaffing protection to electrical cables and antenna co-axial cables in deckhead, voids and in ceiling spaces while working on the Galley modifications.

C.93 Camshaft Replacement

C.93.1 The Contractor shall make removals necessary for the camshaft replacement on the starboard inner main engine.

C.93.2 The Contractor shall provide the materials and labor required to replace the left bank camshaft on the starboard inner main engine.

C.93.3 The Contractor shall replace cam follower assemblies for the left bank camshaft.

C.93.4 The Contractor shall reassemble all removals to their respective locations.

C.93.5 The Contractor shall replace engine oil and filters on the starboard main inner engine.

C.93.6 The Contractor shall perform operational test of engine upon completion of repairs.

C.93.7 Leave engine ready for service.

C.94 Engine Harness Repairs

C.94.1 The Contractor shall furnish all necessary labor and materials to replace port outer, port inner, starboard outer and starboard inner main engine wiring harnesses from the bulkhead mounted engine control panels, through the junction box, to the wire ends at the respective sensors, thermocouples and transducers, in their entirety. The Contractor shall replace all cable ends, couplers or terminal ends required to complete the harness replacements.

C.94.2 The newly installed cables shall be provided with adequate chafing protection and be secured IAW DnV requirements for class.

C.94.3 Upon completion of replacement of the engine harnesses, prove satisfactory operation prior to Sea Trials.

C.94.4 A Sea Trials shall be conducted to make sure that the above repairs have been complete and the Vessel is fit for service.

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- C.94.4 Leave engines ready for service.
- C.95 Portable Water Tank Cleaning/certification
- C.95.1 The Contractor shall pump out, open, inspect, clean and remove heater elements and close potable water tank.
- C.95.2 The Contractor shall inspect and repair/replace all piping as required.
- C.95.3 The Contractor shall reengineer and repair fill lines connecting the upper and lower potable water tanks to eliminate the siphoning effect presently experiencing. They shall replace line as required.
- C.95.4 The Contractor shall replace valves for camera wash in bath unit rooms and port aft helo deck.
- C.95.5 The Contractor shall inspect and repair the existing water maker as required. The Contractor shall install an additional water maker unit of like type. If a second water maker is not available to be installed on the vessel, the Contractor shall have performed all preparation work, i.e. perform plumbing and piping and electrical circuitry to the installation location of the second water maker. The Contractor shall then ship the second water maker to where the vessel is for crew installation. If this does happen, the Contractor shall provide instructions to complete the installation of the second water maker and leave them with the Vessel. This inspection and repair shall enable both units to operate simultaneously. The Contractor shall install a water chlormeter/brominator or portable water systems between the water makers and water tanks.
- C.95.5.1 Supply of 1 desalinator
- C.95.5.2 2 - bromine units
- C.95.5.3 Spares for all 3 units
- C.95.5.4 2 - water feed pumps
- C.95.5.5 Electrical installation
- C.95.5.6 Air freight of components
- C.95.5.7 Labor for installation
- C.95.6 The Contractor shall repair the broken supply line in upper port jet room and engine room behind the fire panel(inboard midway)
- C.95.7 The Contractor shall flush, fill, disinfect, drain and refill potable water tank and potable water system.
- C.95.8 The Contractor shall provide services of a competent agency to take a potable water system sample and certify safe for human consumption.
- C.95.9 The Contractor shall provide vessel crew with original and 1 copy of the portable water tank certification.
- C.95.10 Leave system ready for service.
- C.96 The Contractor shall furnish all necessary labor and materials to replace the Converter presently on the vessel.
- C.96.1 Paragraph is not used
- C.96.2 Converter Replacement
- C.96.2.1 Replace existing Converter with new converter rated at 75kVa, 60Hz
- C.96.2.2 Disconnection and removal of existing converter container
- C.96.2.3 Electrical materials and labor
- C.96.2.4 Crane hire
- C.96.2.5 Forktruck hire
- C.96.2.6 DNV approval
- C.96.2.7 Design effort
- C.96.2.8 Construction of watertight boundary around converter
- C.96.3 Misc works associated with Converter Replacement
- C.96.3.1 The Contractor shall perform survey of vessel components in the pilothouse, electronics room, ships office and vessel computers to locate all components requiring 60 Hz power supply. Upon completion of the survey the contractor will advise the Government of all changes and costs associated with fulfilling the requirements of C.96.3.2 and C.96.3.3.
- C.96.3.2 The Contractor shall replace all computer components, monitors, etc. that require 60Hz power with 50Hz compatible components.
- C.96.3.3 The Contractor shall rewire all newly installed components to the 50Hz power system.
- C.96.3.4 All C4I room components shall all be powered by 60Hz converter. All table receptacles in the ships office area shall be powered by 60Hz converter. Provide a minimum of 8 receptacles in the sky lounge powered by the 60Hz converter.
- C.96.3.5 The Contractor shall prove satisfactory operation by testing all newly installed circuits and components.
- C.96.3.6 The Contractor shall leave systems ready for service.
- C.97 Air System Repairs
- C.97.1 The Contractor shall replace port and starboard air dryers.
- C.97.2 The Contractor shall remove, open, clean, inspect and rebuild all remote valve air actuators. (do we add more here???03-008)
- C.97.3 Repairs to Main Engine Air System
- C.97.3.1 The contractor shall replace the Port and starboard Main engine air regulators.
- C.97.3.2 The contractor shall replace 3 - Norgen solenoid valves.
- C.97.3.3 The contractor shall replace 4 - fusible links.
- C.97.3.4 The contractor shall replace 1 - Stortz 52 x 11/2 bsp female adaptor.
- C.97.3.5 The contractor shall replace 5 - Fusible link roller assembly and base.
- C.97.4 The Contractor shall blow compressed air through all remote actuator supply lines. The air lines are to be free of all debris/water.
- C.97.5 The Contractor shall inspect and clean Port and Starboard air receivers (tanks).
- C.97.6 The Contractor shall overhaul to like new condition or replace if cost effective, the air compressors and air compressor motors on the Port and Starboard. This shall be determined during inspection and a decision made then. This effort shall include the following:

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- C.97.6.1 Investigation and report on current conditions to the Government
- C.97.6.2 Replacement of Mercer relief valves
- C.97.6.3 The Contractor shall furnish all DNV services and perform all tests/inspection to enable DNV approval of this action.
- C.97.7 The Contractor shall reinstall all removals. Leave system ready for service.
- C.98 Bypass Valves Repair
- C.98.1 The Contractor shall furnish all required materials and labor to replace bypass valves on all 4 main engines.
- C.98.2 The Contractor shall replace missing, defective or incorrect securements. The Contractor shall rewire, as appropriate, the electrical circuits affected by this effort.
- C.98.3 Successful completion of Sea Trials shall validate satisfactory repairs of Bypass valves repair.
- C.99 Sea Trails
- C.99.1 The Contractor shall perform an operational test of vessel and systems as required for DnV certification to include: Operate propulsion engines, generators and power sharing system in all modes, steering system and backups, switchboards and distribution system, air compressors, sewage system, potable water system, anchor windlass, trim tabs, t-foils, stern ramp, fire suppression system, HVAC system, and galley equipment.
- C.99.2 The Contractor shall provide the Ship Surveyor with record of readings and inspection results.
- C.99.3 The Contractor shall perform a test of navigational system while vessel is underway.
- C.99.4 The Sea Trial shall include at least 1 hour at 95% rated speed. Contractor cost for this item shall include transit to and from Contractors plant to test location.
- C.99.5 The Contractor shall replace fuel and lubricants expended during Sea Trials and leave vessel ready for service.
- C.100 Main Engine Maintenance
- C.100.1 The following are associated with the main engines (PIME, SIME, SOME, POME), Top-End Overhaul. The Contractor shall perform the following tasks on the main engines: clean and inspect Inner valve springs, Outer valve springs, Valve spring guides, Valve spring locks and Valve rotators,
- C.100.2 Check engine protective devices (2000 hour service interval)
- C.100.3 Turbocharger (4000 hour service interval)
- C.100.3.1 Turbocharger Heat Protection Lagging replacement
- C.100.3.2 All cracked Turbocharger Flexible Bellows and gaskets will be replaced. This work includes the supply and installation of 5 - exhaust bellows, 10 - gaskets, B7 stud bolts for fitting and labor for removal and installation.
- C.101 Miscellaneous Repairs
- C.101.1 The Contractor shall make the following repairs to the vessel.
- C.101.1.1 Repair cracks in underside of helo deck structure.
- C.101.1.2 Repair aft starboard quarter ramp's stowage chocks. Renew worn vertical aluminum plate.
- C.101.1.3 Investigate and repair leaks in fire main piping in vehicle deck deckhead, (frame 45/46, starboard side).
- C.101.1.4 Paragraph is not used
- C.101.1.5 Paragraph is not used
- C.101.1.6 Port T-foil spot facing.
- C.101.1.7 Paragraph is not used
- C.101.1.8 Forward portal steel pads-longitudinal bulkhead (this will be required as part of DNVs 5-year survey).
- C.101.1.9 Repairs required due to wharf damage.
- C.102 Modifications to Emergency Genset Fuel Oil Tank
- C.102.1 The Contractor shall modify the Emergency Genset (P&S) Fuel Oil Tank mounting structure.
- C.102.2 The above effort shall include the following:
- C.102.2.1 Clean voids and transfer fuel.
- C.102.2.2 Relocate and repair fuel oil tanks.
- C.102.2.3 Erection and dismantling of scaffolding.
- C.102.2.4 Perform design effort as required.
- C.102.2.5 The Contractor shall furnish all DNV services and perform all tests/inspection to enable DNV approval of this action.
- C.103 Ride Control
- C.103.1 The Contractor shall perform work on the following ride control system of the vessel.
- C.103.2 Port and Starboard Forward "T" Foil.
- C.103.2.1 The Contractor shall overhaul both hydraulic cylinders and renew hydraulic hoses on flap cylinder.
- C.103.2.2 Check flap operating linkage and pivots.
- C.103.2.3 Check flap hinges and hinge pins/bushes.
- C.103.2.4 Drain oil tank, clean and inspect internally, renew suction filter, test low level alarm and refill system with new oil.
- C.103.2.5 Ensure nitrogen pressure in accumulator is normal (90 bar).
- C.104 Port Inboard Steering Bucket Units (One cycle (RAM) needs to be rebuilt.)
- C.104.1 The Contractor shall perform the following.

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- C.104.1.1 Measure and record all impeller clearances.
- C.104.1.2 Retighten all water jet installation bolting
- C.104.1.3 Measure Cutlass bearing clearance.
- C.104.1.4 Inspect Feedback Cables and Hydraulic Hoses.
- C.104.1.5 Inspect steering and bucket operating rams.
- C.104.1.6 Inspect all pivot pins/bushes for wearing and damage.
- C.104.2 The parties agree that under the SOW listed, the associated ceiling price for this effort includes basic maintenance for opening, inspection and reporting. Upon inspection by the Contractors Ship Surveyor and/or DNV, additional maintenance effort may be required that is above and beyond the effort include in the subject ceiling price. If additional work is required, the contractor shall coordinate or contact the COR for direction.
- C.104.2.1 Remove Port Steering cylinder have tested and either repaired or replaced. Cylinder may be able to be rebuilt and the end cost will reflect this if it is determined that it can be rebuilt.
- C.105 Paragraph is not used
- C.106 Paragraph is not used
- C.107 Paragraph is not used
- C.108 PAX Area Entry Doors
- C.108.1 The Contractor shall remove, overhaul, replace and rebalance the PAX area entry doors. The Contractor shall overhaul/replace and rebalance the Port Aft entry door.
- C.109 Paragraph is not used
- C.110 DNV Five Year Survey
- C.110.1 The Contractor shall provide the necessary equipment and services to support the DNV surveyor while conducting a survey on Vessel 050. This service shall include the following Contractor personnel, Two (2) Electronics Technicians, Two (2) Fitters, and One (1) Quality Control Supervisor.
- C.110.2 In the event that the DNV surveyor does not complete this effort, the Contractor shall provide this support at a future date at no additional cost to this contract.
- C.110.3 The DNV Surveyor will be looking at the following.
- C.110.3.1 Renewal Hull.
- C.110.3.2 Bottom Survey.
- C.110.3.3 Waterjet Surveys.
- C.110.3.4 EO Survey.
- C.110.3.5 IOPP.
- C.110.3.6 Load Line.
- C.110.3.7 HSC Renewal.
- C.110.3.8 Dangerous Goods.
- C.110.3.9 Machinery Survey.
- C.110.3.10 Forward portal steel pads-longitudinal bulkhead
- C.110.3.10.1 The contractor shall remove and replace defective sections of Ramp steel support structure. The contractor shall weld cracks in aluminum web frames and riders on transverse Frames #54 & #57 Port and Starboard above bolted steel supports. All repairs shall be in accordance with INCAT approved repair procedures. All drawings will be updated accordingly.
- C.110.4 The Contractor shall complete a 100% inspection and calibration of all sensors. The parties agree that under the SOW listed above, the associated ceiling price for this effort includes the basic inspection by the Contractors Ship Surveyor and/or DNV. If any sensor needs replacement, the Contractor shall coordinate with the COR for direction.
- C.110.5 Misc. sundry items associated with the DnV 5 year survey resulting in the required opening/inspection. All works under this item shall be discussed with the onsite COR prior to work being done.
- C.110.6 The Contractor shall procure the following Fire Safety Equipment: 1 Firemans Axe and one (1) Firemans Boots (size large)
- C.110.7 The Contractor shall repair the support bracket in Void 2 Port and Starboard for the Fire sprinkler seacock shut off valve. All repairs shall be in accordance with INCAT standard repair procedures. The Contractor shall clean, apply primer and paint the Sea Chest Valve.
- C.110.8 The Contractor shall replace the battery backed lights as required to meet DnV requirements. The Contractor shall replace the Life Jacket light as required to meet DnV requirements.
- C.110.9 The parties agree that under the SOW listed, the associated ceiling price for this effort includes basic maintenance for opening, inspection and reporting. Upon inspection by the Contractors Ship Surveyor and/or DNV, additional maintenance effort may be required that is above and beyond the effort include in the subject ceiling price. If additional work is required, the Contractor shall coordinate or contact the COR for direction.
- C.111 Paragraph is not used
- C.112 Paragraph is not used

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C.113 Port Day Tanks

C.113.1 The Contractor shall inspect the Port Day Tanks for any damage that needs repairs.

C.113.2 The Contractor shall repair the damage that they found on this inspection of the Port Day Tanks. This repair effort is to include design and drafting of the repairs and the cutting of brackets and aluminum plate as required to complete repairs.

C.113.3 The Contractor shall furnish all DNV services and perform all test/inspections to enable the DNV approval of these repairs.

C.114 Paragraph is not used

C.115 Head Upgrade

C.115.1 The Contractor shall convert toilet stall into a shower stall in the female head block.

C.115.2 The Contractor shall upgrade the capability of the hot water heater to accommodate this additional requirement for hot water.

C.115.3 The Contractor shall upgrade electrical and exhaust systems to support refit.

C.116 The Contractor shall convert the instrumentation room starboard side to storage room. The Contractor shall clean material out of room from NSWCCD vessel instrumentation exercise and convert to storage space.

C.116.1 Works include the removal of all existing wiring, cables, cable trays, shelves etc and restoration of room to finished walls.

C.116.2 Repairs to room door and to surrounding doors and framing due to DNV restrictions on storage spaces.

C.116.3 The Contractor shall wire and install 2 - 240vac duplex receptacles in the instrument room under the bench.

C.117 The Contractor has conducted an analysis of the ventilation in the Crews Berthing Compartments. The Contractor has provided recommendations to the Government on how to improve ventilation in the Crews Berthing Compartments. Based on this recommendation, the Contractor shall implement the following in the Port and Starboard crew berthing areas:

C.117.1 Ventilation System.

C.117.1.1 Fit speed controllers to the existing two (2) supply fans. Minimum supply air to be 8 l/s per crew member as per ISO 7547.

C.117.1.2 Perform repair work to supply air inlet grilles.

C.117.1.3 Add a roof mounted exhaust fan at the aft of each crew cabin equally sized at 150 l/s to ensure adequate ventilation cross flow even with the forward passenger deck access doors closed. Fans shall be fitted with roof cowlings and motorized smoke dampers wired to open with fan operation.

C.117.1.4 Install a concealed ducted indoor unit to supply conditioned air, via flexible ducting, to localized areas. This style of air conditioner would allow the air to be more evenly spread throughout the separate crew berthing areas.

C.117.1.5 The installation of this additional A/C unit necessitates the temporary removal of the ceiling panels to allow for duct installation. The existing roof mounted compressor unit shall remain and be plumbed too, and shall operate with this new indoor air conditioner. The Contractor shall perform all electrical modifications as appropriate.

C.117.1.6 The Contractor shall furnish all DnV services and perform all test/inspections to enable the DnV to issue a High Speed Craft certification.

C.117.1.7 If any additional works are required to have the units repaired or replaced, this effort will be addressed separately.

C.118 Temporary Berthing/Dry Stores Provisions

C.118.1 The Contractor shall remove 50% of the racks and wall lockers presently in the temporary berthing area. The Contractor shall keep in place the racks that are outboard in the space.

C.118.2 The Contractor shall install dry storage shelves in 50% of this now open area to store supplies for the Galley. Use Aft 50% for crew baggage storage and storage of AT/FP equipment (Bullet proof vests and crew TA-50).

C.118.3 The Contractor shall install some of the free standing freezers in this area. The Contractor shall permanently mount the freezers.

C.118.4 The above effort shall include the following:

C.118.4.1 Removal of temporary berths and lockers.

C.118.4.2 Fabrication and welding of frames to include materials

C.118.4.3 Doors, frames and associated hardware

C.118.4.4 Supply and installation of Hexcore lining to bulkhead frames

C.118.4.5 Supply, fabrication and welding of shelf supports and framing

C.118.4.6 Supply and installation of Hexcore shelving

C.118.4.7 Removal of existing flooring and replacement with new

C.118.4.8 Electrical, fire detection and sprinkler modifications

C.118.4.9 Perform design effort as required

C.118.4.10 The Contractor shall furnish all DNV services and perform all test/inspections to enable the DNV approval of these repairs.

C.119 Paragraph is not used

C.120 Additional Storage area

C.120.1 The Contractor shall install/build Storage area similar to Spearhead to eliminate storage containers on Main Deck and increase available deck space.

C.120.2 The above effort shall include the following:

C.120.2.1 Supply, fabrication, welding and installation of bulkheads on vehicle deck

C.120.2.2 Supply, fabrication, welding and installation of shelving units

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- C.120.2.3 Supply and installation of door frame, hardware, etc.
- C.120.2.4 Removal and replacement of SFP, to include allowance for new SFP panels
- C.120.2.5 Modifications of Fire Detection Panels
- C.120.2.6 Modifications of the sprinkler system
- C.120.2.7 Allowance for new lighting units, fittings and electrical installation
- C.120.2.8 Perform design effort as required
- C.120.2.9 The Contractor shall furnish all DNV services and perform all test/inspections to enable the DNV approval of these repairs
- C.120.3 The Contractor shall construct an Engineering Workshop in the forward space between the port and starboard storage units
 - C.120.3.1 The above effort shall include the following:
 - C.120.3.1.1 Supply and installation of shelving units
 - C.120.3.1.2 Electrical works to workshop
 - C.120.3.1.3 Fabrication and installation of workbench
 - C.120.3.1.4 Perform design effort as required
 - C.120.3.1.5 The Contractor shall furnish all DNV services and perform all test/inspections to enable the DNV approval of these repairs
- C.121 Tiedowns on maindeck
 - C.121.1 The Contractor shall install at least 100 tiedown points.
 - C.121.2 The above effort shall include the following:
 - C.121.2.1 Manufacture of 100 tie down units
 - C.121.2.2 Machining of units
 - C.121.2.3 Setout, sanding, drilling and wilding of units
 - C.121.2.4 Perform design effort as required
 - C.121.2.5 The Contractor shall furnish all DNV services and perform all test/inspections to enable the DNV approval of these repairs
- C.122 Engineering Spaces
 - C.122.1 The Contractor shall perform the following tasks in the Engineering Spaces:
 - C.122.1.1 Upgrade and/or increase Lube Oil and Dirty Oil storage tanks to 1500 liters in both the Port and Starboard.
 - C.122.1.1.1 The above effort for the Lube Oil storage tanks shall include the following:
 - C.122.1.1.1.1 Manufacture of aluminum tanks, quantity of two
 - C.122.1.1.1.2 Mounting and installation of tanks in hull of vessel
 - C.122.1.1.1.3 Piping and valves
 - C.122.1.1.1.4 Removal and replacement of shell plating
 - C.122.1.1.1.5 Pumps and installation
 - C.122.1.1.1.6 Manual soundings
 - C.122.1.1.1.7 Air system upgrade
 - C.122.1.1.1.8 Craneage
 - C.122.1.1.1.9 Perform design effort as required
 - C.122.1.1.1.10 The Contractor shall furnish all DNV services and perform all test/inspections to enable the DNV approval of these repairs
 - C.122.1.1.2 The above effort for the Dirty Oil storage tanks shall include the following:
 - C.122.1.1.2.1 Manufacture of aluminum tanks, quantity of two
 - C.122.1.1.2.2 Mounting and installation of tanks in hull
 - C.122.1.1.2.3 Piping and valves
 - C.122.1.1.2.4 Removal and replacement of shell plating
 - C.122.1.1.2.5 Pumps and installation
 - C.122.1.1.2.6 Manual soundings
 - C.122.1.1.2.7 Air system upgrade
 - C.122.1.1.2.8 Craneage
 - C.122.1.1.2.9 Perform design effort as required
 - C.122.1.1.2.10 The Contractor shall furnish all DNV services and perform all test/inspections to enable the DNV approval of these repairs
 - C.122.1.2 Provide air conditioning to the Ante Rooms and ships Electronics Room.
 - C.122.1.2.1 The above effort shall include the following:
 - C.122.1.2.1.1 Air conditioning supply and marinising of units
 - C.122.1.2.1.2 Fabrication of brackets and installation of units
 - C.122.1.2.1.3 Electrical installation
 - C.122.1.2.1.4 Modification to switchboards
 - C.122.1.2.1.5 Refrigerant modifications and additional lines
 - C.122.1.2.1.6 Condensate lines
 - C.122.1.2.1.7 Allowance for removal and replacement of SFP, penetrations, ceiling penetrations, etc.
 - C.122.1.2.1.8 Commissioning
 - C.122.1.2.1.9 Perform design effort as required
 - C.122.1.3 Add additional air circulation fans in Engine Rooms to lower temperature to enable them to better operate in high ambient climates.
 - C.122.1.3.1 The above effort shall include the following:

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- C.122.1.3.1.1 Supply and installation of portable fans, quantity of four
- C.122.1.3.1.2 Fabrication of mounting brackets
- C.122.1.3.1.3 Electrical modifications/connections
- C.122.1.3.1.4 Removal and replacement of SFP
- C.122.1.4 Not Used
- C.122.1.5 Upgrade the Fuel Transfer Pumps to a Higher Capacity to enable the main engines to draw fuel to enable them to run at full rated speed(to at least twice the burn rate of the Main Engines).
- C.122.1.5.1 The above effort shall include the following:
 - C.122.1.5.1.1 Pump (400 liter/min @ 6 bar), quantity of two
 - C.122.1.5.1.2 Modification to fuel lines
 - C.122.1.5.1.3 Pipe, valves, penetrations, etc.
 - C.122.1.5.1.4 Electrical works
 - C.122.1.5.1.5 Removal and replacement of SFP to allow cable runs
 - C.122.1.5.1.6 Cable running to include cable supply
- C.122.1.6 Upgrade Primary Fuel Filter System to a duplex system that is capable of full engine RPM operation on a single side.
- C.122.1.6.1 The above effort shall include the following:
 - C.122.1.6.1.1 Upgrade the filter system
 - C.122.1.6.1.2 Fabrication of fuel filler mounts
 - C.122.1.6.1.3 Modification to floor plates
 - C.122.1.6.1.4 Modifications to pipework
 - C.122.1.6.1.5 Removal and replacement of lagging
 - C.122.1.6.1.6 Perform design effort as required
 - C.122.1.6.1.7 The Contractor shall furnish all DNV services and perform all test/inspections to enable the DNV approval of these repairs
- C.122.1.7 Put a Fuel Transfer Pump Stop Switch on Bridge.
- C.122.1.7.1 The above effort shall include the following:
 - C.122.1.7.1.1 Electrical/electronics labor
 - C.122.1.7.1.2 Fitout labor
 - C.122.1.7.1.3 Materials to include switches, cables and electrical run
- C.122.1.8 Implement and/or rewire VISIT System to enable it to have the PMS computer tied into ships LAN.
- C.122.1.8.1 The above effort shall include the following:
 - C.122.1.8.1.1 Electrical/electronic labor
 - C.122.1.8.1.2 Electrical materials
- C.122.1.9 Paragraph is not used
- C.122.1.10 Reconfigure Vent Piping to Potable Water Storage Tanks to eliminate all possibilities of siphoning both Potable Water Storage Tanks.
 - C.122.1.10.1 The above effort shall include the following:
 - C.122.1.10.1.1 Repairs to desalinator tank vents
 - C.122.1.10.1.2 Materials required for the effort
 - C.122.1.10.1.3 Perform design effort as required
 - C.122.1.10.1.4 Repairs to vents to main freshwater tank
- C.123 Fuel System
- C.123.1 The Contractor shall install/enclose all fuel tank level indicators (TLI) in sounding tubes for ISIS.
- C.123.2 These works require the degassing & certification of all 4 tanks and the supply and installation of the appropriate fuel level sensors, including electrical connections, wiring and connection with/to ISIS system.
- C.124 Paragraph is not used
- C.125 Paragraph is not used
- C.126 Vessel Structure
- C.126.1 The Contractor shall repair fan covers in front of the sky lounge the covers to include patching extra blot holes. The Contractor shall design and install a system that shall allow the removal of the fan covers from the outside, but will not allow the corrosion of dissimilar metals making it possible to remove covers without breaking the bolts, seal and reinstall.
- C.126.2 Paragraph is not used
- C.126.3 The Contractor shall repair Port forward mooring station hatch and combing.
- C.126.4 The Contractor shall repair water jet protective structures.
- C.126.5 The Contractor shall repair all holes and cracks above Port and Starboard switchboards.
 - C.126.5.1 This work involves repairing the various holes and cracks and also the coating of the roof area around the switchboards with a urethane coating product to repel/resist further water ingress.
- C.126.6 The Contractor shall replace all exterior fire extinguisher mounts/brackets.
- C.126.7 The Contractor shall inspect and repair all damaged or failed tie down points on vehicle decks.
 - C.126.7.1 This work involves the full removal of 50 half-pipe tie down points including restoration of deck surface; removal and relocation of an additional 45 half-pipe tie-down points including restoration of deck surface; and the removal of 7 clover-leaf tie-

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down points, including machining and fitting of new plugs to bolt holes to restore deck surface.

C.126.8 The Contractor shall replace electronics room exterior aft door with better quality door and/or renew and add a locking/securing device to hold door closed.

C.126.9 The Contractor shall repair all kick out panels in passenger (PAX) areas.

C.126.10 The Contractor shall repair crack in deck joint near upper potable water tank.

C.126.11 The Contractor shall repair hole in deck just before Starboard forward ramp.

C.126.12 The Contractor shall repair corrosion holes in deck near oily water station.

C.126.13 The Contractor shall fabricate and install new bushing on spare trim tab yoke.

C.126.14 The Contractor shall make all necessary repairs to the T-foil system and to all associated equipment to make it fully operational. The Contractor shall not install the T-foil.

C.127 Environmental

C.127.1 The Contractor shall clear all air handler condensate drains in overhead A/C units and calibrate all thermostats.

C.127.2 The Contractor shall inspect and clean exhaust fans and ducting. The Contractor shall clean and disinfect to remove all molds and debris in galley, head, and passenger areas.

C.127.3 The Contractor shall inspect all exterior A/C units and prepare a report with SOW and cost associated with any repairs necessary. This report shall be submitted to Government for approval.

C.128 Paragraph is not used

C.129 Fire Extinguishing Systems

C.129.1 The Contractor shall repair all patched lines,

C.129.1.1 port mid-ship,

C.129.1.2 Starboard Forward by flame detector(same as C.101.1.3)

C.129.2 The Contractor shall inspect and adjust all drencher heads not protruding through fire protection according to DNV instruction.

C.129.3 The Contractor shall inspect and repair all hose stations and equipment boxes.

C.129.4 The Contractor shall clean, inspect and repair AFFF piping system.

C.130 Collection, Holding and Transfer System (CHT, Sewage)

C.130.1 The Contractor shall replace CHT discharge valves with brass valves (Overboard and macerator valves).

C.130.2 The Contractor shall rebuild or replace macerator pump and motor.

C.130.3 The Contractor shall replace all toilet flush valves.

C.131 Main Engines (M/E)

C.131.1 The Contractor shall install Turbo Speed Acromag modification to all M/E turbo chargers.

C.131.2 The Contractor shall check, adjust and replace M/E mounts as needed.

C.132 Hydraulic Systems

C.132.1 The Contractor shall renew or Repair all forward hydraulics valves, hoses, cylinders, and associated components.

C.132.2 The Contractor shall inspect and Renew or Replace ramp hydraulic rams, valves, hoses, grease points and all associated equipment as required by inspection.

C.133 Electrical Systems:

C.133.1 The Contractor shall install a 60Hz, 110VAC, rated at 20 amps USA standard duplex outlet in engineering office for the radio rack.

C.133.2 The Contractor shall install a light switch in the sky lounge to operate overhead lighting. It shall be located it near aft door.

C.134 Generator Sets: The following is for the Generator Sets overhaul for the HSV-X1.

C.134.1 This applies to the engine overhaul of the HSV-X1. It applies to all four of the vessels engines. The overhaul equals an engine to be as new to zero hour standards.

C.134.1.1 The Contractor shall make all required disconnections, removals, reconnections and reinstallations and provide the services of a qualified manufacturers repair technician in the overhaul of the engines.

C.134.1.2 The Contractor shall comply with the "gas freeing" requirement contained in the "General Requirements" section of this specification.

C.134.1.3 The Contractor shall comply with all Federal, state, and local environmental standards pertaining to the removal, handling, storing, and disposal of hazardous wastes.

C.134.1.4 The cost of performing this effort shall be included in the price of this item.

C.134.1.5 The Contractor shall perform an overhaul, repair and cleaning of the ship's service generator engines in accordance with the manufacturer's detailed instructions and latest service bulletin.

C.134.1.6 The Contractor shall overhaul, renew and repair components, parts and materials using manufacturer's genuine parts.

C.134.1.7 The Contractor shall not interchange generator and generator engine parts.

C.134.1.8 The Contractor shall perform additional work as authorized by Contracting Officer.

C.134.1.9 The Contractor shall submit a report and five (5) copies to the Contracting Officer at the conclusion of this effort. This report shall list additional required repairs and parts/components renewals. Report shall identify extent of repairs with the estimated

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labor and parts/component identification, unit cost and availability.

C.134.1.10 Removal of Main Engine

C.134.1.10.1 The Contractor shall remove main engine room access soft patch, located on deck, to allow removal of ship service generator engines.

C.134.1.10.2 The Contractor shall remove all interferences, make all necessary disconnections and remove the port and starboard ship's service generator engines from vessel to an overhaul facility.

C.134.1.10.3 The Contractor shall remove and dispose of all hazardous wastes in accordance with local regulations and guidelines.

C.134.1.11 Generator Engines:

C.134.1.11.1 Repairs

C.134.1.11.1.1 The Contractor shall remove and dispose of all greases, fuels, coolants, lubricants and fluids.

C.134.1.11.1.2 The Contractor shall disconnect and remove generators from the two generator/engine sets.

C.134.1.11.1.3 The Contractor shall completely disassemble, clean and inspect the following engine items of the two (2) generator engines:

C.134.1.11.1.3.1 Turbochargers

C.134.1.11.1.3.2 Cam Followers

C.134.1.11.1.3.3 Spacer Plates

C.134.1.11.1.3.4 Crankshafts

C.134.1.11.1.3.5 Camshafts

C.134.1.11.1.3.6 Dampers

C.134.1.11.1.3.7 Gear Trains and Bushings

C.134.1.11.1.3.8 Cylinder Blocks and Oil Pans

C.134.1.11.1.3.9 Rocker Arm Assemblies

C.134.1.11.1.3.10 Fuel Racks

C.134.1.11.1.3.11 Timing Advances

C.134.1.11.1.4 The Contractor shall clean and test the following:

C.134.1.11.1.4.1 Oil Coolers

C.134.1.11.1.4.2 Aftercooler Cores

C.134.1.11.1.4.3 Alternators

C.134.1.11.1.4.4 Starters

C.134.1.11.1.4.5 Fuel Injection Pumps

C.134.1.11.1.4.6 Governors

C.134.1.11.1.5 The Contractor shall renew the following parts with new or remanufactured original equipment material parts:

C.134.1.11.1.5.1 Cylinder Packs (includes liners, rods, wrist pins, bushings, pistons and rings)

C.134.1.11.1.5.2 Main Bearings

C.134.1.11.1.5.3 Rod Bearings

C.134.1.11.1.5.4 Crankshaft Seals

C.134.1.11.1.5.5 All Seals and Gaskets

C.134.1.11.1.5.6 Cylinder Heads

C.134.1.11.1.5.7 Fuel Nozzles

C.134.1.11.1.5.8 Thermostats

C.134.1.11.1.5.9 Water Pumps

C.134.1.11.1.5.10 Turbocharger Cartridges

C.134.1.11.1.5.11 Oil Pumps

C.134.1.11.1.5.12 Fuel Transfer Pumps

C.134.1.11.1.5.13 Cam Bearings

C.134.1.11.1.5.14 All Oil and Fuel Filters

C.134.1.11.1.6 Inspections

C.134.1.11.1.6.1 The Contractor shall conforming to the procedures set forth by the engine manufacturer's manual for engine overhaul and repair. The Contractor shall take all clearances or measurements required to detect parts which require renewal due to defects or wear.

C.134.1.11.1.6.2 The Contractor shall perform a joint Ship Surveyor/Contractor inspection of all parts and components prior to reassembly of generator engines.

C.134.1.11.1.7 Reassembly

C.134.1.11.1.7.1 The Contractor shall completely reassemble all engine parts and components of the two (2) ship service generator engines using the manufacturer's technical manual as a guide.

C.134.1.11.1.7.2 The Contractor shall furnish and install all lubricants and sealants necessary for reassembly of generator engines.

C.134.1.11.1.7.3 The Contractor shall reassemble each generator in its entirety maintaining all design clearances. The Contractor shall furnish and install all lubricants as necessary.

C.134.1.12 Tests

C.134.1.12.1 The Contractor shall upon completion of reassembly of generator engines furnish and fill engines with necessary amount of fuels, coolants and lubricants and connect each engine to a dynamometer capable of testing the engines through their full range of horsepower and speed.

C.134.1.12.2 The Contractor shall conduct a four hour dynamometer test of each reassembled generator engine in the presence of the Ship Surveyor. The Contractor shall prior to dynamometer tests, submit to Ship Surveyor for approval, the proposed dynamometer test procedure.

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- C.134.1.12.3 The Contractor shall perform the minimum requirements for the dynamometer tests to include a suitable start/warm-up period followed by a graduated power and speed build up to one hundred (100) percent rated power. The full rated power portion of the test shall not be less than thirty minutes.
- C.134.1.12.4 Take and record the following of each generator engine during dynamometer tests:
- C.134.1.12.4.1 RPM
- C.134.1.12.4.2 Load(BHP)
- C.134.1.12.4.3 Jacket water temperature from engine
- C.134.1.12.4.4 Jacket water temperature to engine
- C.134.1.12.4.5 Lube Oil temperature to Oil Cooler
- C.134.1.12.4.6 Lube Oil temperature from Oil Cooler
- C.134.1.12.4.7 Inlet Air Temperature
- C.134.1.12.4.8 Ambient Atmospheric Pressure
- C.134.1.12.4.9 Air Manifold Pressure
- C.134.1.12.4.10 Crankcase Pressure
- C.134.1.12.4.11 Jacket Water Pressure
- C.134.1.12.4.12 Lube Oil Header Pressure
- C.134.1.12.4.13 Lube Oil to Filter Pressure
- C.134.1.12.4.14 Lube Oil from Filter
- C.134.1.12.5 The Contractor upon completion of satisfactory dynamometer tests shall take and test an oil sample from the engine crankcase for spectrochemical analysis.
- C.134.1.12.6 The Contractor shall provide the Ship Surveyor and the Government a typewritten report and five (5) copies of results of dynamometer tests and spectrochemical engine oil analysis of each generator engine.
- C.134.1.13 Reinstallation
- C.134.1.13.1 The Contractor upon satisfactory completed repairs, shall reinstall the port and starboard ship's service generator engines to proper locations aboard vessel. The Contractor shall reinstall all interferences, and make all necessary reconnections.
- C.134.1.13.2 The Contractor shall reinstall the main engine room access soft patch. The Contractor shall replace access soft patch gasket and all missing and defective fasteners.
- C.134.1.13.3 The Contractor shall furnish proper coolant and fill all supply and return lines of ship service generator engines. The Contractor shall remove all air from ship service generator coolant systems.
- C.134.1.13.4 The Contractor shall furnish and install all missing and defective fasteners.
- C.134.1.13.5 The Contractor upon satisfactory completion of all repairs and tests, reconnect and couple ship service generators in true alignment to generator engines.
- C.134.1.13.6 The Contractor shall apply one overall coat of paint, Caterpillar Yellow (P/N 1R11-C-106A), to all exterior generator engine and generator parts.
- C.134.2 Overhaul of the Generator section: The following is for the overhaul of the Generator section for the HSV-X1.
- C.134.2.1 This applies to the overhaul of the Generator section of the HSV-X1 It applies to four generators.
- C.134.2.2 The Contractor shall make all required disconnections, removals, reconnections and reinstallations and provide the services of a qualified manufacturers repair technician and overhaul, furnished listed materials, repair and clean ship service generator sets as specified below.
- C.134.2.3 Comply with the "gas freeing" requirement contained in the "General Requirements" section of this specification.
- C.134.2.4 The Contractor shall comply with all Federal, state, and local environmental standards pertaining to the removal, handling, storing, and disposal of hazardous wastes.
- C.134.2.5 The cost of performing this effort under C.134.2 shall be included in the price of this item.
- C.134.2.6 The Contractor shall perform an overhaul, repairs and cleaning of the ship's service generators in accordance with the manufacturer's detailed instructions and latest service bulletin.
- C.134.2.7 The Contractor shall perform an overhaul, renew and repair components, parts and materials using manufacturer's genuine parts.
- C.134.2.8 The Contractor shall not interchange generator and generator engine parts.
- C.134.2.9 The Contractor shall perform additional work as authorized by Contracting Officer.
- C.134.2.10 The Contractor shall submit a typed report and five (5) copies listing additional required repairs and parts/components renewals to the Contracting Officer. This Report can be in electronic format. The Report shall identify extent of repairs, estimated labor, parts/component identification, unit cost and availability.
- C.134.2.11 Removals:
- C.134.2.11.1 The Contractor shall remove main engine room access soft patch, located on main deck, to allow removal of ship service generators.
- C.134.2.11.2 The Contractor shall remove all interferences, make all necessary disconnections and remove the port and starboard ship's service generators from vessel to an overhaul facility.
- C.134.2.11.3 The Contractor shall remove and dispose of all hazardous wastes.
- C.134.2.12 Generators
- C.134.2.12.1 The Contractor shall conduct the following repairs to the generators
- C.134.2.12.1.1 Completely disassemble and clean all parts of the ship service generators in accordance with the manufacturer's overhaul specifications.
- C.134.2.12.1.2 Bake/dry out all generator electrical current carrying parts.
- C.134.2.12.1.3 Replace all diodes and sealed self lubricating bearings.
- C.134.2.12.1.4 Clean and reinsulate all windings and intended surfaces of each rotor assembly by dipping and baking using an approved

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varnish.

C.134.2.12.1.5 Dynamically balance each rotor assembly.

C.134.2.13 Inspections

C.134.2.13.1 The Contractor shall conform to the procedures as set forth by the manufacturer's overhaul specifications and latest service bulletins, and perform all tests and inspections required to detect shorts, grounds and insulation resistance of each generator.

C.134.2.13.2 The Contractor shall perform a Megger test, both rotating and stationary windings on each generator.

C.134.2.13.3 The Contractor shall provide the Ship Surveyor a typewritten report and five (5) copies of results of all tests and inspections of each generator. The Contractor shall also provide one copy of the report to the Contracting Officer. An Electronic file format would be acceptable.

C.134.2.14 Reassembly:

C.134.2.14.1 The Contractor shall reassemble each generator in its entirety maintaining all design clearances. The Contractor shall furnish and install all lubricants as necessary.

C.134.2.14.2 The Contractor shall apply one overall coat of paint, Caterpillar Yellow (P/N 1R11-C-106A), to all exterior generator engine and generator parts.

C.134.2.15 Reinstallation:

C.134.2.15.1 Upon satisfactory completed repairs, the Contractor shall reinstall the port and starboard ship's service generators to proper locations aboard vessel, reinstall all interferences, and make all necessary reconnections.

C.134.2.15.2 The Contractor shall reinstall the main engine room access soft patch. The Contractor shall replace access soft patch gasket and all missing and defective fasteners.

C.134.2.15.3 Upon satisfactory completion of all repairs to generators, the Contractor shall reconnect and couple ship service generators in true alignment to generator engines.

C.134.2.15.4 The Contractor shall furnish and install all missing and defective fasteners.

C.134.2.16 Load Bank Test

C.134.2.16.1 The Contractor shall furnish all materials and conduct a four (4) hour load bank test of each installed ship service generator in the presence of the Ship Surveyor. The Contractor shall gradually load each generator engine/generator set to full load for the last hour of test.

C.134.2.16.2 The Contractor shall make all engine and generator adjustments as necessary based on the testing.

C.134.2.16.3 The Contractor during the test period, shall take and record the oil pressures, water temperatures, RPM, air box temperatures, crankcase pressures, and electrical loads at fifteen (15) minute intervals of each generator engine/generator set during the entire four hour load test.

C.134.2.16.4 The Contractor shall provide the Ship Surveyor a typewritten report and five (5) copies of results of load tests of each ship service generator engine/generator set. One copy shall go to the Contracting Officer. It can be in electronic format.

C.134.2.16.5 The Contractor shall upon satisfactory completion of all repairs and tests, leave ready for service, the ship service generator/engine sets.

C.135 Safety Service Items

C.135.1 The Contractor shall clean, inspect, and Lubricate, or Replace and Lubricate wire rope (cable) on rescue boat crane. The Contractor shall then complete a load test on crane.

C.135.2 The Contractor shall clean, inspect, and Lubricate, or Replace and load test wire ropes (cables) on ramp.

C.135.3 The Contractor shall clean, inspect, Lubricate, or Replace and load test wire rope (cable) on overhead crane.

C.135.4 The Contractor shall renew/replace rescue boat with like kind, size and quality.

C.135.5 The Contractor shall repair fire doors in forward Anterooms and port and starboard engine rooms.

C.135.6 The Contractor shall upgrade and replace Navigation lights (port & Starboard) to a more durable water tight type.

C.135.7 The Contractor shall upgrade and replace spot light.(need help in describing what would be appropriate in the above)

C.136 The Contractor shall replace a total of 9 table tops with neutral color and like type material.

C.137 Paragraph is not used

C.138 Paragraph is not used

C.139 Paragraph is not used

C.140 Replacement of right hand front idler gear

C.140.1 The Contractor shall furnish all required materials and labor to replace the right front idler gear.

C.140.2 The above effort shall include the following:

C.140.2.1 Supply of equipment

C.140.2.2 Replacement and installation of idler gear

C.141 Shaft Alignment Checks

C.141.1 Rental of Shaft Alignment kit (x 4 engines)

C.141.2 Shaft check (x 4)

C.141.3 Motor only check (x 4)

C.141.4 Disconnection & reconnection of pipe work, fittings, etc

CONTINUATION SHEET**Reference No. of Document Being Continued**

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Name of Offeror or Contractor: BOLLINGER / INCAT USA, L.L.C.

C.142 Main Engine Sea Water Pump Repairs

C.142.1 Removal of pumps

C.142.2 Transportation

C.142.3 Dismantle and repair

C.142.4 Reinstallation

C.143 Repair Engine Room Fire Doors

C.144 Berthing of Vessel at Incat Tasmania from September 5 thru September 30,2003 while awaiting start of Maintenance cycle.

C.145 SOME Engine Crankshaft Repairs

C.145.1 Crankshaft Repairs

C.145.2 Parts and Labor to remove and install 14 liners on SOME. This includes consumables and environmental charge for clean-up.

C.146 The Contractor shall make the following repairs in accordance with Incat approved repair procedures.

C.146.1 Stern ramp - bottom rider tripped, outboard side.

C.146.2 Stern ramp - bottom rider worn away, inboard side.

C.146.3 Centre bow Fr 52-53 - PVC deck drain require refastening.

C.146.4 Void 1, Fr 55, aft side under deck head - crack in horse shoe bracket.

C.146.5 Void 2 Bhd 54, aft side, inboard - cracked T bar connection above sponson.

C.146.6 Void 2, Fr 49 - 2 x cracks found at rider connection to B bracket.

C.146.7 Void 2 , Fr 51 - cracked rider connection.

C.146.8 void 2 , Fr 52 - cracked rider connection.

C.146.9 Void 1 port, Fr 55 inboard fwd side - cracked weld in first longitudinal above chine seam.

C.146.10 Void 1 port, Fr 57 inboard - Hydraulic pipe rubbing on frame web.

C.146.11 Void 4 near genset fuel tank - drill hole in water tight bulkhead.

C.147 The Contractor shall repair a vertical crack in the Carlin Plate at the toe of horizontal 12 plate connecting bracket, Starboard side cross brace connection XB-6 / XB-4 at Portal Carlin Frame 41 in accordance with Incat approved repair procedures. Drawings will be updated accordingly.

C.148 The Contractor shall repair internal crack approx. 300mm long in Fresh Water Tank in Void 5 in the centre section of the tank. Contractor shall re-inspect and test the tank after repairs are completed and a water sample analysis shall be taken.

C.149 The Contractor shall replace the wiring for the jacket water heater contactors on all main engines. The wiring shall be upgraded to be able to handle 18 amps.

C.150 The Contractor shall remove rust from the inside of the air receivers by high-pressure water wash. The air receivers shall be removed to be cleaned. Rusted portions shall be cut out and replaced. The air receivers shall be tested prior to reinstallation.

C.151 The Contractor shall re-calibrate the port forward and aft Fuel Tank probes. All EO Testing Sheets & Documentation shall be revised. Ships Electronics drawing that displays this information shall be updated.

C.152 Paragraph is not used

C.153 Paragraph is not used

C.154 The Contractor shall inspect the centerline void of the vessel for unsecured cables. The Contractor shall re-secure loose cables with new clips and ties as appropriate. The Contractor shall reseal cable seals that pass through watertight bulkheads where necessary.

C.155 The Contractor shall insure that the fluorescent light in void 4 starboard is operational and properly mounted.

*** END OF NARRATIVE C 005 ***

CONTINUATION SHEET

Reference No. of Document Being Continued

PIIN/SIIN DAAE07-01-D-T064/0001 **MOD/AMD** 30

Name of Offeror or Contractor: BOLLINGER / INCAT USA, L.L.C.

SECTION G - CONTRACT ADMINISTRATION DATA

LINE	PRON/ AMS CD/ <u>ITEM</u> <u>MIPR</u>	ACRN	OBLG STAT/ <u>JOB ORD NO</u>	<u>PRIOR AMOUNT</u>	<u>INCREASE/DECREASE</u> <u>AMOUNT</u>	<u>CUMULATIVE</u> <u>AMOUNT</u>
0002AD	P146PC642T 65480446100	AJ	2 4ZCW12	0.00 \$	2,905,639.00 \$	2,905,639.00
				NET CHANGE \$	2,905,639.00	

<u>SERVICE</u> <u>NAME</u>	<u>NET CHANGE</u> <u>BY ACRN</u>	<u>ACCOUNTING CLASSIFICATION</u>	<u>ACCOUNTING</u> <u>STATION</u>	<u>INCREASE/DECREASE</u> <u>AMOUNT</u>
Army	AJ	21 42040000041C1C09P654804255Y S20113	W56HZV	\$ 2,905,639.00
				NET CHANGE \$ 2,905,639.00

	<u>PRIOR AMOUNT</u> <u>OF AWARD</u>	<u>INCREASE/DECREASE</u> <u>AMOUNT</u>	<u>CUMULATIVE</u> <u>OBLIG AMT</u>
NET CHANGE FOR AWARD:	\$ 10,076,101.00	\$ 2,905,639.00	\$ 12,981,740.00