

CCGS George R. Pearkes

Annual Drydocking and refit – Sept 28 – Nov 2, 2012

Revised and additional specification items as a result of Bidder's

Conference Aug 8th, 2012.

- 1. H-24 Hull, Void Space and Tank Survey (NEW)**
- 2. ED-02 Propellor Suveys, Port and Starboard (REVISED)**
- 3. ED-05 Sea Connection Inspections (REVISED)**
- 4. ED-06 Storm Valve Inspections (REVISED)**
- 5. L-01 Aux Alternator Inspection and Cleaning (REVISED)**

Spec item #: H-24	SPECIFICATION	TCMS Field #:
HULL, VOID SPACE AND TANK SURVEY		

New Item introduced at Bidder's Conference – Aug 8th, 2012

H-24 HULL, VOID SPACE & TANK SURVEY

Part 1: SCOPE:

The intent of this specification item shall be for the contractor to provide access to various parts of the hull and internal tanks to allow a vessel hull condition survey. The work will involve the opening-up of void spaces and water ballast tanks and the provision of scaffolding or certified man-lift for the inspection of the exterior hull and for taking of Ultrasonic Thickness (UT) measurements. The location of the UT measurements will be determined by a Classification Society arranged using separate contract by the Technical Authority.

Part 2: REFERENCES:

Requirements directed by the Classification Society Inspector.

Part 3: TECHNICAL DESCRIPTION:

Hull Structure:

- 3.1** The contractor shall provide the services a firm specializing in NDT (ultrasonic thickness testing) to determine the shell plating thickness as indicated by the Classification Society. The Contractor shall include a cost of \$3500 for UT testing (including proper surface preparation). This cost will be adjusted by PWGSC 1379 action supported by invoice.
- 3.2** The contractor shall provide any staging or certified man-lifts required to enable the Classification Society to perform a detailed examination and inspection of the hull and for the ultrasonic thickness testing. The contractor shall quote on the provision of a certified man-lift including operator for a period of 100 hours and provide unit cost per hour for the use of the man-lift and operator. This cost will be adjusted by PWGSC 1379 action.
- 3.3** The Classification Society Inspector will direct where the UT shots and inspection will take place.

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3.4 At a minimum these will be:

- Side shell and steel abutting side shell where abrasion/damage is considered likely due to ice interaction.
- Wind and water strikes of the side shell (ice belt)
- Bottom shell plating
- Bow area
- Forefoot /ice skeg area
- Areas with step changes in hull modulus, or in areas experiencing high sheer due to icebreaking.
- Accommodation block deck connection
- Area above the forefoot /ice skeg

Voids and Ballast Tanks:

3.5 The Contractor shall open-up void and ballast tanks as directed by the Classification Society Inspector.

3.6 The Contractor shall provide a method to have the spaces certified Gas Free, safe for personnel to enter and safe for hot work. Certificates shall be forwarded to the Owner's representative and a copy shall be posted in a conspicuous location near the entrance to each space.

3.7 The void spaces and ballast tanks are to be thoroughly cleaned; all scale, dirt and debris is to be removed ashore. Any rusty areas are to be power tool cleaned. All vent and sounding pipes are to be proven clear.

3.8 The Contractor is to allow for 150 M² of coating repairs, and is to provide a cost per M² for preparation and a cost per M² for recoating, the cost to be adjusted by 1379. The internal coating is to be Intertuf Epoxy Black followed by a coat of Intertuf Epoxy aluminum; application is to be to the manufacturer's recommendations.

3.9 The Owner's representative (or designate) will be present when the manhole covers are reinstalled. The Contractor shall clean the sealing surfaces around the manhole and cover and install the cover using new ¼ inch thick neoprene gaskets. Anti seizing compound shall be used on all threads. The Contractor is to quote separately the unit cost per stud to replace any broken manhole securing studs.

3.10 The Contractor shall include the cost of opening, provide gas free certificates, and closing-up of the following voids and ballast tanks and shall include unit cost per tank. The Contractor is to quote separately the unit cost per stud to replace any broken manhole securing studs. These cost will be adjusted by PWGSC 1379 action.

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Forepeak Tank	Fr 175-stem	85.3 M ³
Wing WB Tank (P)	Fr 152-163	51.4 M ³
Wing WB Tank (S)	Fr 152-163	51.4 M ³
#2 DB WB Tank (P)	Fr 126-152	49.9 M ³
#2 DB WB Tank (S)	Fr 126-152	49.9 M ³
Aft Peak Tank	Fr 1-13	112.4 M ³
Souder Compartment (P)	Fr 126-130	4.9 M ³
Souder Compartment (S)	Fr 126-130	4.9 M ³
Pipe Tunnel Aft	Fr 51-94	39 M ³
DB Void Space (P)	Fr 53-54	0.5 M ³
Fwd Wing WB Tank (P)	Fr 163-175	43.4 M ³
Fwd Wing WB Tank (S)	Fr 163-175	46.7 M ³
#4 DB WB (S)	Fr 54-70	43.4 M ³
#2 Void Space (P)	Fr 106-117	35.8 M ³
#2 Void Space (S)	Fr 106-117	35.8 M ³
#4 Void Space (P)	Fr 30-54	39.3 M ³
#4 Void Space (S)	Fr 30-54	39.3 M ³

3.11 The void spaces and ballast tanks are to be thoroughly cleaned; all scale, dirt and debris is to be removed ashore. Any rusty areas are to be power tool cleaned. All vent and sounding pipes are to be proven clear.

3.12 The Contractor is to allow for 400 M² of total coating repairs, and is to provide a cost per M² for preparation and a cost per M² for recoating, as detailed above; cost to be adjusted by 1379. The internal coating is to be Intertuf Epoxy Black followed by a coat of Intertuf Epoxy aluminum; application is to be to the manufacturer's recommendations.

3.13 The Owner's representative (or designate) will be present when the manhole covers are reinstalled. The Contractor shall clean the sealing surfaces around the manhole and cover and install the cover using new ¼ inch thick neoprene gaskets. Anti seizing compound shall be used on all threads.

Fuel Tanks.

3.14 The Contractor shall include the cost of opening, provide gas free certificates, and closing-up of the following fuel tanks and shall provide unit cost per tank.

#1 F.O. Tank	Fr 163-175 (P)	56 M ³
#2 F.O. Tank	Fr 163-175 (S)	56 M ³
#3 F.O. Tank	Fr 152-163 (P)	113 M ³
#4 F.O. Tank	Fr 152-163 (S)	113 M ³
#5 F.O. Tank	Fr 106-121 (P)	118.6 M ³

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#6 F.O. Tank	Fr 106-121 (S)	118.6 M ³	
DB F.O. Tank #7	Fr 106-126 (S)	52.0 M ³	
DB F.O. Tank #8	Fr 110-126 (S)	41.6 M ³	
#9 F.O. Tank	Fr 70-96 (P)	79.7 M ³	
#10 F.O. Tank	Fr 70-96 (S)	79.7 M ³	
Upper Flume Tank	Fr 117-126	111.7 M ³	
Lower Flume Tank	Fr 117-126	113.0 M ³	

- 3.15** The Contractor will be responsible for all environmental requirements for disposal of tank residues. The ship's crew will pump the tanks down to the suction levels.
- 3.16** The Contractor will open up the tanks and dispose of the remaining fuel residues; quote on the removal and proper disposal of 500 litres per tank. The Contractor is to quote a cost per litre for disposal. The total will be adjusted by 1379 action.
- 3.17** The Owner's representative (or designate) will be present when the manhole covers are reinstalled. The Contractor shall clean the sealing surfaces around the manhole and cover and install the cover using new ¼ inch thick neoprene gaskets. Anti seizing compound shall be used on all threads. The Contractor is to quote separately the unit cost per stud to replace any broken manhole securing studs.

Part 4: PROOF OF PERFORMANCE:

- 4.1** The Contractor is to be responsible for all inspections and UT shots required by the Classification Society Inspector to determine an inspection schedule; at each inspection point, the Contractor is to advise the Owner's representative, in advance, to allow his/her attendance.

Part 5: DELIVERABLES:

- 5.1** Upon completion of all UT and inspection points, the Contractor and the Owner's representative (or designate) shall conduct a final inspection and ensure all tanks, covers, have been returned to operating conditions and the attending Classification Society Inspector has completed all inspections.

Spec Item: ED-02	SPECIFICATION	TC/MS Field #: 3F014 & 015
PROPELLER SURVEYS, PORT AND STBD		

Revised Specification Item introduced at Bidder's Conference – Aug 8th, 2012

ED-02 PROPELLER SURVEYS, PORT AND STBD

Part 1: SCOPE:

- 1.1** The intent of this specification is to remove and inspect the port and starboard propellers for Transport Canada/Marine Safety (TC/MS) credit. This work will be in conjunction with item ED-03, Tailshaft & Shaft Bearing Surveys (P&S).

Part 2: REFERENCES:

Propeller particulars:

- Diameter: 3600 mm
- No. of Blades: 4
- Weight: 7200 Kg
- Outboard Turning

Part 3: TECHNICAL DESCRIPTION:

- 3.1** The Contractor shall install sufficient lifting arrangements on the hull of the vessel to remove the propeller tail cones, propeller nuts and propellers. Upon completion of all work the lifting arrangements shall be removed and areas ground flush and recoated as per HD-04.
- 3.2** Jacking plates, studs, hydraulic power pack, and associated removal equipment is available onboard the vessel; access is through the flush deck hatch on the Helicopter (Boat) Deck. Ship's crew will retract the Hangar and open and close the hatch.
- 3.3** The Contractor shall mark both shafts with the location of the propellers prior to any removals. The Contractor shall remove the propeller tail cone, the forward propeller gland seal rings and seals, the propeller nut locking key, propeller nuts and propellers. Rope guards will be removed/installed as part of ED-01, Sterntube Bearing Wear-down.
- 3.4** The propeller and cone shall be thoroughly cleaned and examined for defects; any defects are to be recorded on the provided Propeller Inspection Report form, available from the Technical Authority. The Contractor shall verify each key and propeller keyway with dye penetrant. The Contractor shall measure the keys and keyways in the shafts and propellers in 3 locations, measuring width and thickness

Spec Item: ED-02	SPECIFICATION	TC/MS Field #: 3F014 & 015
PROPELLER SURVEYS, PORT AND STBD		

and depth of keyways. This to be witnessed by TC/MS, the Technical Authority and the Inspection Authority.

- 3.5** The Contractor shall install the propellers and harden up the propeller nuts in accordance with manufacturer's instructions. The Contractor shall advise the Technical Authority when this is to be carried out. The Technical Authority and the Attending TC/MS Surveyor are to witness the final installation of the propeller on the shaft to ensure that the propeller is properly aligned with the original proof marks and that the travel is equivalent.
- 3.6** Propeller nuts are to be locked in place. Stainless steel locking wire is to be used on compression bolts.
- 3.7** The tail cones and the back of the propeller nuts shall be filled with tallow. The tail cone nuts shall be secured with stainless locking wire, the nut recesses filled with cement and faired to the contour of the cones.
- 3.8** The Contractor shall supply and install new rubber seal rings to the front of the propellers prior to fitting the glands. The gland nuts shall be secured with stainless steel locking.
- 3.9** The Contractor's bid shall include the cost for three separate fits of each propeller on the appropriate shaft. The Contractor shall provide a quotation for the unit cost of each additional fit.

Part 4: PROOF OF PERFORMANCE:

- 4.1** The Contractor is to be responsible for all inspections and is to consult with TC/MS, prior to commencement of work, to determine an inspection schedule; at each inspection point, the Contractor is to advise the Technical Authority, in advance, to allow his/her attendance.

Part 5: DELIVERABLES:

- 5.1** The contractor shall supply a copy of the NDT test reports and a report of all measurements taken.

Spec Item: ED-05	SPECIFICATION	TC/MS Field #: 3LL110
SEA CONNECTION INSPECTIONS		

Revised Specification Item introduced at Bidder's Conference – Aug 8th, 2012

ED-05 SEA CONNECTION INSPECTIONS

Part 1: SCOPE:

- 1.1 The intent of this item is to open up the sea connection valves for cleaning, overhaul and inspection for Transport Canada/Marine Safety (TC/MS) credit.

Part 2: REFERENCES:

Location	Description	Application
Port sea chest Fr. 96 – 106	4" butterfly valve	Air vent high chest
Port sea chest Fr. 96 – 106	4" butterfly valve	Air vent low chest
Port sea chest Fr. 96 – 106	¾" SDNR globe	Air inj. high chest
Port sea chest Fr. 96 – 106	¾" SDNR globe	Air inj. low chest
Port sea chest Fr. 96 – 106	1/2" SDNR globe	Steam inj. high chest
Port sea chest Fr. 96 – 106	1/2" SDNR globe	Steam inj. low chest
Port sea chest Fr. 96 – 106	8" butterfly valve	Recirc. high chest
Port sea chest Fr. 96 – 106	8" butterfly valve	Recirc. low chest
Port sea chest Fr. 96 – 106	8" butterfly valve	Recirc. to strainer
Port sea chest Fr. 96 – 106	16" butterfly valve	Sea inlet high chest
Port sea chest Fr. 96 – 106	16" butterfly valve	Sea inlet low chest
Stbd. sea chest Fr. 96 – 106	4" butterfly valve	Air vent high chest
Stbd. sea chest Fr. 96 – 106	4" butterfly valve	Air vent low chest
Stbd. sea chest Fr. 96 – 106	¾" SDNR globe	Air inj. high chest
Stbd. sea chest Fr. 96 – 106	¾" SDNR globe	Air inj. low chest
Stbd. sea chest Fr. 96 – 106	1/2" SDNR globe	Steam inj. high chest
Stbd. sea chest Fr. 96 – 106	1/2" SDNR globe	Steam inj. low chest
Stbd. sea chest Fr. 96 – 106	8" butterfly valve	Recirc. high chest
Stbd. sea chest Fr. 96 – 106	8" butterfly valve	Recirc. low chest
Stbd. sea chest Fr. 96 – 106	8" butterfly valve	Recirc. to strainer
Stbd. sea chest Fr. 96 – 106	16" butterfly valve	Sea inlet high chest
Stbd. sea chest Fr. 96 – 106	16" butterfly valve	Sea inlet low chest
F/W gen. sea chest Fr. 102-106	4" butterfly valve	Air vent
F/W gen. sea chest Fr. 102-106	3" SL angle globe	F/W gen. Suction
F/W gen. sea chest Fr. 102-106	1 ¼" SL angle globe	R/O unit suction
F/W gen. sea chest Fr. 102-106	¾" SDNR globe	Air injection
F/W gen. sea chest Fr. 102-106	½" SDNR globe	Steam injection
Aft sea chest port Fr. 51-54	2 ½" butterfly valve	Air vent
Aft sea chest port Fr. 51-54	3" SDNR valve	Sea Suction
Aft sea chest port Fr. 51-54	¾" SDNR globe	Air injection
Aft sea chest port Fr. 51-54	½" SDNR globe	Steam injection
Stern Tube Sea Bay Fr 39	3" SDNR valve	Sea Suction
Stern Tube Sea Bay Fr 39	3" 90° SDNR valve	Sea Suction
Stern Tube Sea Bay Fr 39	2" butterfly valve	Air vent

Spec Item: ED-05	SPECIFICATION	TC/MS Field #: 3LL110
SEA CONNECTION INSPECTIONS		

Location	Description	Application
Stern Tube Sea Bay Fr 39	¾" SDNR globe	Air injection
Stern Tube Sea Bay Fr 39	½" SDNR globe	Steam injection
Sea Bay Fr. 96 – 102	16" butterfly valve	Sea inlet port
Sea Bay Fr. 96 – 102	16" butterfly valve	Sea inlet stbd.
Sea Bay Fr. 96 – 102	16" butterfly valve	Sea inlet to SW Pump Manifold
Sea Bay Fr. 96 – 102	2 ½" Globe	Recir to Aft Seabay
Sea Bay Fr. 96 – 102	6" butterfly valve	Air vent port
Sea Bay Fr. 96 – 102	6" butterfly valve	Air vent stbd.
Sea Bay Fr. 96 – 102	5" SL angle globe	Fire pump suction
Sea Bay Fr. 96 – 102	3" SL angle globe	Aux. D/G. suction
Sea Bay Fr. 96 – 102	8" SL angle globe	Foam pump
Sea Bay Fr. 96 – 102	8" butterfly valve	Main S/W P/P aft
Sea Bay Fr. 96 – 102	8" butterfly valve	Main S/W P/P fwd
Sea Bay Fr. 96 – 102	8" butterfly valve	Main S/W P/P Stdby
Sea Bay Fr. 96 – 102	4" SL angle globe	Ballast pumps
Sea Bay Fr. 96 – 102	4" SL angle globe	Distiller / RO unit

Part 3: TECHNICAL DESCRIPTION:

- 3.1** All valves shall be suitably tagged such that they may be reinstalled in their respective original locations.
- 3.2** The contractor shall disassemble all valves listed. The globe valves shall have their spindles removed, cleaned and laid out for inspection. The internals of the valve bodies, valves, and sealing surfaces shall be cleaned thoroughly cleaned, and laid out for inspection. The butterfly valves shall be removed, disassembled, cleaned and laid out for inspection.
- 3.3** The butterfly valves are to be carefully inspected, paying close attention to the seals. Any seal replacements will be with Owner-supplied replacements; this cost is to be adjusted by 1379 action.
- 3.4** Metal-to-metal seated valves will be lapped to provide a watertight seal.
- 3.5** The Contractor shall provide a test method to insure that a watertight seal is maintained between the valve and valve seat for the screw type valves.
- 3.6** This test method shall be determined to be acceptable to the attending TC/MS Surveyor.
- 3.7** Following all inspections and tests, all valves shall be assembled with new gland packing and jointing, and installed in good order in their original respective locations.
- 3.8** The Contractor shall supply all material required to carry out the specified work. Contractor to allow \$10,000 for valve parts and materials.

Spec Item: ED-05	SPECIFICATION	TC/MS Field #: 3LL110
SEA CONNECTION INSPECTIONS		

Part 4: PROOF OF PERFORMANCE:

- 4.1** The Contractor is to be responsible for all inspections and is to consult with TC/MS, prior to commencement of work, to determine an inspection schedule; at each inspection point, the Contractor is to advise the Technical Authority, in advance, to allow his/her attendance.

- 4.2** Upon the refloating of the vessel all valves are to be inspected for water tightness. Any leaks are to be repaired by the contractor.

Spec Item: ED-06	SPECIFICATION	TC/MS Field #: 3LL090
STORM VALVE INSPECTIONS		

Revised Specification Item introduced at Bidder's Conference – Aug 8th, 2012

ED-06 STORM VALVE INSPECTIONS

Part 1: SCOPE:

- 1.1** The intent of this specification item is to open up the overboard discharge valves and their associated steam de-icing valves for cleaning, overhaul and inspection for Transport Canada/Marine Safety (TC/MS) credit.

Part 2: REFERENCES:

Location	Description	Application
Propulsion motor room Frame 35 port	2" SDNR globe	OW separator
Propulsion motor room Frame 47 port.	3" Pneumatic globe	Sub fire pump
Generator room Frame 83 stbd.	2" right angle cock	Boiler blowdown
Generator room Frame 90 – 91stbd.	4" SDNR globe	Ballast pump
Generator room Frame 90 – 91stbd	3" SDNR globe	Monitor Pump
Generator room Frame 101 –102 port.	10" SDNR globe	Central cooler
Generator room Frame 86 stbd.	4" SDNR globe	F/W distiller
Generator room Frame 85 stbd.	3" SDNR globe	Aux. Generator
Sewage Compartment Stbd	3" SDNR globe	Sewage discharge
Frame 176 stbd. Fwd rope stores	2" SDNR globe	Fwd Bilge
Frame 13 port Cofferdam, Bosun's Workshop	2"SDNR globe	Av. Cofferdam
Frame 13 port, Bosun's Workshop	2" SDNR globe	Bilge pump

Part 3: TECHNICAL DESCRIPTION:

- 3.1** All valves and associated steam valves, where applicable, shall be suitably tagged such that they may be reinstalled in their respective original locations.
- 3.2** The Contractor shall completely disassemble the overboard valves as well as their respective steam de-icing valves. Spindles shall be removed from the valve bonnets, cleaned and laid out for inspection. The internals of the valve bodies, valves, and sealing surfaces shall be cleaned thoroughly. The 12 inch butterfly valve shall be removed, disassembled, cleaned and laid out for inspection.
- 3.3** Metal to metal seated valves shall be lapped to provide a watertight seal.
- 3.4** The Contractor shall provide a testing method to insure that a watertight seal is maintained between the valve and valve seat. The method used shall be to the satisfaction of the attending TC/MS Surveyor.

Spec Item: ED-06	SPECIFICATION	TC/MS Field #: 3LL090
STORM VALVE INSPECTIONS		

- 3.5** Upon the completion of all work and satisfactory testing, all valves shall be assembled with new gland packing and jointing and installed in their respective positions aboard the vessel.
- 3.6** The Contractor shall supply all material required to carry out the specified work. Contractor to allow \$5,000 for valve parts and materials.

Part 4: PROOF OF PERFORMANCE:

- 4.1** The Contractor is to be responsible for all inspections and is to consult with TC/MS, prior to commencement of work, to determine an inspection schedule; at each inspection point, the Contractor is to advise the Technical Authority, in advance, to allow his/her attendance.
- 4.2** Upon the refloating of the vessel all valves are to be inspected for watertightness. Any leaks are to be repaired by the contractor.

Spec Item: L-01	SPECIFICATION	TC/MS Field #: 3E043
AUX ALTERNATOR INSPECTION AND CLEANING		

Revised Specification Item introduced at Bidder's Conference – Aug 8th, 2012

L-01 AUX ALTERNATOR INSPECTION AND CLEANING.

Part 1: SCOPE:

- 1.1 The intent of this specification is to open up the Aux Alternator for inspection, cleaning and survey as per TC/MS requirements.

Part 2: REFERENCES:

- 2.1 The contractor shall supply all materials, equipment, and parts required to perform the specified work unless otherwise stated.

Auxiliary Alternator: Newage Stamford Type MSC634C
S/N H9795.1 Rated 625 KVA, 60 Hz, 3 Phase, PF .8 600v,
601A, Enclosure IP 23, Insulation Class B.

Part 3: TECHNICAL DESCRIPTION:

- 3.1 The Contractor is to note this work shall be carried out in conjunction with the Ship's Crew overhaul of the Aux Diesel engine and attachments.
- 3.2 The Contractor shall measure and record the megger readings for the main and exciter windings for the rotor and stator. The Contractor is to know the Alternator is fitted with an AVR that must be disconnected prior to megger testing taking place.
- 3.3 The air gaps shall be taken and recorded prior to any work commencing and taken again upon completion.
- 3.4 The continuity of the anti-condensation heaters shall be checked; Megger and record readings. All wiring and connections to be checked.
- 3.5 Resistance of stator winding RTD's to be checked and recorded.
- 3.6 The AVR connections and wires to be inspected.
- 3.7 Contractor is to uncouple the alternator from the Aux Generator. The main wire leads are to be marked and disconnected. All additional wiring is to be disconnected as required. The alternator hold-down bolts are to be removed and

Spec Item: L-01	SPECIFICATION	TC/MS Field #: 3E043
AUX ALTERNATOR INSPECTION AND CLEANING		

all shims marked to as to their corresponding position. The side connection box is to be removed and the connections protected.

- 3.8** Contractor to remove the railings and ducting as required between the generator and the engine room soft patch. Generator is to be separated from the generator engine and shifted to the soft patch area and carefully removed from the vessel and taken to a suitable facility for inspection and cleaning.
- 3.9** Once the generator is in the shop the rotor is to be removed from the stator. Contractor is to ensure rotor and stator are protected properly prior to the rotor removal. Both rotor and stator are to be steam cleaned to the satisfaction of the ships Electrical Officer. Upon completion of steam cleaning the rotor and stator are to be baked to remove any moisture.
- 3.10** The rotating rectifier is to be inspected ensuring all solder joints on diodes are in good condition.
- 3.11** All wire connections are to be checked for tightness and all wiring and cables are to be checked for chafing and general condition.
- 3.12** Inspect fan blades for cracks/damage.
- 3.13** Upon completion of cleaning and all checks the generator is to be reassembled with new contractor supplied NDE and DE bearings. DE Bearing is a Cooper 01B 313/100mm EX bearing. Contractor is to measure the shafts in way of the bearings and the bearing housings to ensure proper bearing clearances prior to bearing installation.
- 3.14** Generator is to be returned to the vessel, aligned to the generator and re-secured to the engine and bedplate. Contractor to ensure that bolts and shims are reinstalled in the appropriate locations.
- 3.15** The connection box shall be reinstalled and all wiring shall be reconnected. Upon completion of reinstallation all Meggar readings shall again be performed. Any discrepancies to original readings shall be rectified by the contractor.
- 3.16** All removed ducting and railing shall be reinstalled as per original.

Part 4: PROOF OF PERFORMANCE:

- 4.1** The Contractor is to be responsible for all inspections and is to consult with TC/MS, prior to commencement of work, to determine an inspection schedule; at each inspection point, the Contractor is to advise the Technical Authority, in advance, to allow his/her attendance.

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AUX ALTERNATOR INSPECTION AND CLEANING		

- 4.2** Alternator to be load tested for 2 hrs upon completion of diesel overhaul and re floating of the vessel. Winding and bearing temperatures to be monitored throughout the test run.

Part 5: DELIVERABLES:

- 5.1** Three typewritten copies of the readings shall be provided to the Owner's representative.