Spec item #: E-07	SPECIFICATION	TCMSB Field # 3H008, 3H009
Central Cooling Plate Coolers		

Part 1: SCOPE:

1.1 The intent of this specification shall be to change the gaskets on the plates for the port and starboard Central plate Coolers and inspection/testing for TCMSB. To obtain a survey credit from TCMSB.

1.2 This work shall be carried out in Conjunction with the following:

Part 2: REFERENCES:

2.1 Guidance Drawings/Nameplate Data

2.1.1. Make: Pasilac Therm A/S Plate Coolers
Type: 1730-4 Plateflow
Capacity: 350 M^3/hr
Working press: 125 PSI
Test press: 190 PSI
Serial #s: 82F42131-01-1, 82F42132-01-1,
Quantity of Plates: 200 per cooler

2.2 Standards

2.2.1. The following Coast Guard Standards and or Technical Bulletins must be adhered to in the course of executing this specification. Copies of these standards and bulletins can be obtained from the CCG Technical Authority.
2.2.2. Canadian Coast Guard Fleet Safety Manual (DFO 5737)
2.2.3. Coast Guard ISM Confined Space Entry 7.D.9
2.2.4. Coast Guard ISM Hotwork procedures
2.2.5. Coast Guard ISM Fall Protection procedures
2.2.6. Canadian Coast Guard Welding Specifications for Ferrous Materials, Revision 4. (TP6151 E)
2.2.7. CWB CSA 47.1 latest revision Division I, II or III
2.2.8. SSPC-SPT

2.3 Regulations

2.3.1. Marine Machinery Regulations

2.4 Owner Furnished Equipment

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

Part 3: TECHNICAL DESCRIPTION:

3.1 General

3.1.1. The port and starboard plate coolers shall be dealt with in the same manner for purposes of clarity.

3.1.2. The seawater pumps and the freshwater circulating pumps shall be locked out and recorded in the vessel's lockout log. The isolation valves on the coolers shall be locked closed.

3.1.3. The distance between the head and the follower plates shall be measured before disassembly takes place. The coolers shall be taken apart for cleaning and gasket replacement. Careful attention shall be made to the position of the plates and orientation of the gaskets on each plate. When reassembled the plates should be inserted in the correct place according to their original orientation. Ensure that the plates are turned correct and placed according to the serial numbers.

3.1.4. The plates shall be thoroughly cleaned using a soft brush and suitable cleaning detergent such as Sodium hydroxide with a maximum concentration 1.5% corresponding 3.75 liters of 30% Sodium Hydroxide/100 liters of water. Do not use a wire brush or metal scraper.

3.1.5. The gaskets shall be removed and the groove of the plates cleaned carefully with cleaning fluid. The cleaning fluid can be Methyl ethyl ketone, petroleum naphtha, or carbon tetrachloride.

3.1.6. The new gaskets shall be degreased with a cloth moistened with degreasing fluid. The degreasing fluid shall be trichloroethylene. Allow 15 for the cleaning and degreasing fluids to evaporate before installing gaskets.

3.1.7. A thin coating of owner supplied glue shall be applied in the bottom of the gasket groove and on the back of the gasket. When the glue is almost dry insert the gasket in the groove at the ends first and then the straight sides. Press the gasket well down in the grooves. A plywood arrangement shall be fabricated on a table to compress the gaskets in the plate as the gaskets are installed. Pile the plates on top of each other and use talcum powder on the other side of the plate in the groove area to prevent the plates from sticking together if excess glue should penetrate.

3.1.8. The plates shall be installed back on the cooler in the correct order. The plate pack shall be compressed to the original dimension between the heads. The tightening sequence shall be in a criss-cross pattern.

3.1.9. Following the tightening of the plate packs the coolers shall be hydrostatically tested to 4 bar PSI. TCMSB shall inspect the plates before installed and witness the pressure test.

3.2 Location

3.2.1. Lower Forward Auxiliary Machinery Space

3.3 Interferences

3.3.1 Contractor is responsible for the identification of interference items, their temporary removal, storage and refitting to vessel.

Part 4: PROOF OF PERFORMANCE:

4.1 Inspection

4.1.1. All work shall be completed to the satisfaction of the Chief Engineer.

4.2 Testing
Hydrostatic test of the plate coolers.

4.3 Certification
N/A

Part 5: DELIVERABLES:

5.1 Drawings/Reports

5.1.1

5.2 Spares
N/A

5.3 Training
N/A

5.4 Manuals
N/A