

### **H-3A     LAUNDRY VENTILATION**

The intent of this specification is for Contractor to replace the laundry ventilation ducting. Furthermore, new CFM equipment shall be supplied and installed for the ventilation system.

#### **H-3A.1.   DRAWING & DOCUMENTS SUPPLIED**

Laundry Ventilation System - C14-88-512-01

#### **H-3A.2.   REGULATION**

All regulations shall be adhered to;

- TP 11469E - Guide to Structural Fire Protection
- International Maritime Organization – SOLAS
- IEEE 45 - Recommended Practice for Electrical Installations on Shipboard
- SNAME Technical and Research Bulletin No. 4-16
- SMACNA (Sheet Metal and Air Conditioning Contractors' National Association) - HVAC Duct Construction Standards, Metal and Flexible (2005)
- ANSI/ASHRAE Standard 151:2010 - Practices For Measuring, Testing, Adjusting, And Balancing Shipboard HVAC&R Systems

#### **H-3A.3.**

Prior to commencing any work, Contractor shall tag and lock out each system supply/exhaust fan set as per the DFO/5737 Fleet Safety Manual, 7.B.5 - LOCKOUT AND TAGOUT. Contractor shall install /remove locks and tags accordingly during the scope of work. Electrical Officer will assist Contractor in identifying the locations to perform the lock outs, but will not perform the actual lock out. Contractor/FSR shall supply and install their own locking devices and retain all keys during the scope of this work. Upon completion of all work the Electrical Officer shall be in attendance when all locks/tags are removed.

#### **H-3A.4.**

List of HVAC equipment to be removed by Contractor;

One (1) Exhaust fan motor and casing including push button controls located at Portside Boat Deck.

All dryer exhaust ducting shall be dismantled up to the 11 inch diameter elbow. Refer to drawing C14-88-512-01. Refer to drawing C14-88-512-01 to identify the section of ducting to be removed.

All removed ducting material shall be recycled whenever possible.

### **H-3A.5. NEW HVAC EQUIPMENT**

#### **H-3A.5.1. DRAWINGS**

Refer to drawing C14-88-512-01 for the location of new equipment such as lint traps, ducting and backdraft damper.

#### **H-3A.5.2. DUCTING AND INSULATION (SPECIFICATION)**

Ducting shall be fabricated from galvanized steel in accordance with SMACNA standards. For the laundry room, duct thickness shall not be less than 22 ga. For the transition duct on Detail A, the piece shall be not less than 16 ga. For all ducting in the machinery space, the duct thickness shall not be less than 16 ga.

<https://www.smacna.org/>

Ducting in mechanical rooms and ducting passing through A-class boundaries shall be heavy gauged (minimum 3 mm). All duct joints and seals shall be taped with Foil-Grip duct sealant or with Hardcast mastic joint sealant.

#### **H-3A.5.3. LINT TRAPS**

Lint traps for the three residential dryers shall be Reversomatic LT400SD or CGTA approved equal.

Lint trap for the single commercial dryer shall be Reversomatic LT180 with special order for 6-inch duct connections or CGTA approved equal.

#### **H-3A.5.4. CLOSEABLE WEATHER HATCH**

The closeable weather hatch shall be supplied and installed on the ventilation duct opening. The hatch shall be similar to the one previously installed and since removed. Refer to Detail 7-B on original vessel drawing 229-27 sheet 9 of 12.

#### **H-3A.5.5. BACKDRAFT DAMPER**

Backdraft dampers shall be installed downstream of the lint filter for residential dryer and dryer #2. The dampers shall be galvanized steel, 4-inch round.

### **H-3A.6. NEW EQUIPMENT INSTALLATION**

All equipment shall be lifted according to manufacturer's instructions with slings or other suitable and secure means. Openings on the different pieces of equipment shall be covered during installation in order to eliminate the risk of foreign body penetration. Contractor is responsible for removing ceiling panels as well as to replace any ceiling panels damaged during the scope of work. Contractor shall be responsible to readjust ceiling panels and finishing tiles in order to provide a clean finish.

#### Cleaning

All ductwork shall be cleaned after installation and prior to acceptance by the CGTA. Contractor shall complete this specification item in conjunction with H-3 Ventilation Duct Cleaning.

### **H-3A.7. ACCEPTANCE TEST PROCEDURE**

#### **Purpose and scope**

##### **H-3A.7.1.**

The ventilation system acceptance test procedure shall be performed once the HVAC equipment has been installed, connected and started on the vessel and is ready to be operated under normal conditions. This procedure shall verify the functional operation of the ventilation equipment.

##### **H-3A.7.2.**

#### **Acceptance criteria**

The equipment under test must meet all requirements of the test procedure in order to be deemed as operating as per the required design parameters. The vendor must provide a written test procedure for each of the following systems. These procedures shall be reviewed and approved by the client prior to conducting the test. Once approved, any deviation from this procedure is considered to be in non-conformance and shall be reviewed by the client's representative in order to be accepted.

Acceptance test procedures provided shall include:

Air velocity measurements at the ventilation outlet. The velocity of each dryer shall be measured on its own, with all other dryers in the off position.

### **H-3A.7.3. Test procedure and documentation**

The test record sheet shall be completed as the test is being performed. Copies of the Hand written notes shall be provided to the CGTA upon completion of the test, a type written copy and electronic copy shall be provided within 10 days of completing the test. Hand written notes and type written copies shall be signed by the tester or a designated authority.

**H-3A.7.4.**

Client must be advised prior to any test being performed to ensure that power and water services are available and to allow the CGTA to witness the tests.

**H-3A.7.5.**

Prior to conducting the tests, ensure that all test equipment and tools are properly calibrated and have valid certificates where applicable. Include the list of test equipment and tools used on the test record sheet.

**H-3A.8. INSPECTION**

**H-3A.8.1.**

All work shall be witness by the CGTA and the attending TCMSS surveyor.

**H-3A.9. DELIVRABLES**

**H-3A.9.1.**

Inspection

All documentation supplied with the ventilation equipment shall be handed to the CGTA.

**H-3A.9.2.**

Instruction manuals

Contractor shall provide instruction manuals together with parts lists necessary to maintain provided equipment and accessories.

**H-3A.9.3.**

Spare parts

Contractor shall provide a list of recommended spare parts and special tools for the supplied ventilation equipment.

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**H-3A.9.4.**

Certification

## CCGS SIR WILLIAM ALEXANDER DRY DOCKING & REFIT 2015

Contractor shall provide equipment and component certificates including all test reports and CSA and I or ULC certificates of compliance.

### H-3A.9.5. Warranty

**All supplied equipment and materials shall be under warranty for a minimum period of 24 months from delivery or 18 months after CGTA acceptance, whichever occurs first.**

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