

## SOP-EMMA-003 Auxiliary Plant Operations

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### 1.0 Introduction

This Standard Operating Procedure (SOP) describes the vessel's auxiliary mechanical systems and their basic operations. Details of auxiliary system operations are detailed in the manufacturer's manuals. The following list of systems is identified as auxiliary on board the R/V Emma McCall.

- Fuel oil transfer pump
- Engine room ventilation fan
- Air compressors
- Air condition system
- Bow thruster
- Generator

### 2.0 Responsibility

The Chief Engineer is responsible for the operation, inspection and maintenance of all auxiliary systems. The Chief Engineer will delegate various inspection and maintenance duties to the engineering staff.

### 3.0 Procedures

Brief operating instructions for auxiliary plant systems are as follows.

#### 3.1 Fuel Oil Transfer Pump (FOTP)

##### Start Up

- Take soundings on each tank involved in operation and fuel oil transfer meter
- Open the appropriate valves on the fuel oil manifold

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- Press start button on the FOTP
- Continuously monitor each tank by soundings
- To fill the starboard side day tank
  - Take sounding on each tank involved in operation
  - Utilize sight glass on day tank
  - Open appropriate valves on the fuel oil manifold
  - Monitor each tank by sounding the sight glass on day tank
- Once the desired amount of fuel has been transferred, secure the system, shut down the FOTP and get final transfer meter reading

#### Shut Down

- Press stop button on FOTP
- Secure all valves opened at fuel oil manifold
- Record in appropriate engineering logs and fuel oil logs

### **3.2 Engine Room Ventilation Fans- Port and Starboard**

#### Start Up

- Ensure that the main breaker in the main switch board is turned on
- Switch on the local control panel
- On the main switch board
  - Monitor with an amperes meter to verify normal parameters

#### Shut Down

- Switch off on blower control boxes in engine room

### **3.3 Air Compressors #1 and 2 - Drain water from air tanks.**

#### Start Up

- Set local control box switch to on
- Work in auto mode
  - Pressure switches regulate tank pressure

#### Shut Down

- Set local control box switch to off

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### 3.4 Bow Thruster

#### Start Up

- Start Bow Thruster
- Check oil level of hydraulic tank
- Start by bridge control- pushing start button / local
- Operation control located at the wheelman control station
  - Direct thrust port or starboard using bow thruster steering switch

#### Shut Down

- Shut Down Bow thruster engine

### 3.5 Generator

#### Start Up

- Check oil level in crankcase
- Check water level of expansion tank
- Make sure fuel valves are in open position
- Start generator, let run for ten minutes at 900 rpms
  - Monitor oil pressure at 60 PSI
  - Monitor water temperature 210 max
  - Monitor fuel oil pressure at 20 PSI
  - Monitor voltage at 480
  - Monitor cycles at 60 Hz

#### Shut Down

- When satisfied that all parameters are normal on the main switch board ensure generator circuit breaker is open
- Set speed trim dial to idle speed position (all the way counterclockwise)
- Set on/ off switch to off
- Set idle/ run switch to idle

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