

## SOP-EMMA-001 Critical Equipment

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### 1.0 Purpose

Chapter 10 “Maintenance of Ships and Equipment” establishes the definitions of critical and standby critical equipment and sets forth the guidelines that will ensure all this equipment on our vessels is identified and maintained in readiness at all times.

This SOP lists the critical systems, equipment, standby critical equipment, and recommended spares specific to the R/V Emma McCall.

### 2.0 Critical Systems and Equipment

The Company recognizes the importance of all vessel equipment, but has identified the following systems as critical for the R/V Emma McCall:

<b>Systems: Subsystems</b>	<b>Recommended Spares</b>
Ship’s Hull: Hull Internal bulkheads Watertight doors	Damage control kit
Electrical Generation Plant Main generators: Two 3306 Caterpillar Main switchboard panel Electronic Governor batteries	Cylinder heads Pistons Fuel Pump Starter
Propulsion Main engines: Two 3508 Caterpillar Electronic Engines	Spare water pump Spare fuel pump Injectors set
Steering Gear Two Steering pumps/ Vickers	Solenoids set

### 3.0 Standby Critical Equipment

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<b>Air Compressors</b>	<b>Recommended Spares</b>
Pressure Tanks	Filters, compressor oil
Electrical Supply	none

<b>Electrical Generators</b>	<b>Recommended Spares</b>
One Standby generator 3306 Caterpillar Electronic Engine (Port Side)	Injector set, fuel pump

<b>Lifesaving Appliances</b>	<b>Recommended Spares</b>
Life rafts & Life vests	

<b>Firefighting Apparatus</b>	<b>Recommended Spares</b>
Fire pumps, Smoke Alarms / Detectors Gas Detectors	

<b>Communications</b>	<b>Redundancy (no spares)</b>
VHF Radios General Alarm Ship's whistle/ horn	Multiple units and portables, VSAT, Single side band Ship's PA, whistle, horn Portable, manual horns

<b>Navigation</b>	<b>Recommended Spares</b>
Radar, Satellite Compass, GPS	None (Redundancy in place)

<b>Bilge Systems</b>	<b>Recommended Spares</b>
Ballast pump	None (redundancy with fire and ballast pumps)
Bilge alarm - Engine Room, Bow Thruster	Float switches for all locations
Bilge pump #1 and #2	None (redundancy with fire and ballast pumps)
Oily Water Separator	Solenoids

<b>Ship Security Surveillance and Warning system</b>	<b>Recommended Spares</b>
Cameras	Four (4) Spare Cameras and connections

#### 4.0 Maintenance

General maintenance procedures established to ensure their reliability are recorded in the computer-based maintenance program.

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