



MANAGEMENT SYSTEM MANUAL

OCN 8.13 R/V Oceanus Plant Recovery

Originator:

Richard Morris

Approved By:

J.L. Coburn, Jr.

1. Purpose

The purpose of this procedure is to set forth instructions for plant recovery on board R/V Oceanus

2. Responsibility

On board R/V Oceanus, the Chief Engineer is responsible for Plant Recovery. He shall be notified immediately if.....

3. General

The Oceanus has one main engine, a 645-E5 EMD, for propulsion. It is geared through a Lufkin Red (1291) gear that drives a KaMeWa Model 72 CP Propeller. The main engine has air start motors and an air clutch that is controlled via the bridge throttles pneumatic signal. The CP Propeller system Model 2 is operated also by pneumatic/hydraulic servo for positioning propeller pitch.

The CP/ME console control on the bridge is on the EP circuit. Should the ship lose normal power, the emergency generator is in the auto-standby mode and will automatically start up and transfer the load to the emergency bus. This will re-establish power to the air compressor, steering pump and CP console for ship's operation. The main engine clutch will drop out and will need to be re-clutched after the emergency generator is on line. Two permissives must be satisfied to do this: 1) The engine must be at idle RPMs and 2) the pitch must be at zero. Once the main engine is re-clutched, the bridge can maneuver the ship to a safe area allowing troubleshooting to begin to reestablish normal power

In the event of a loss of compressed air, two critical items will be affected, the main engine clutch will have a loss of pneumatics for engine/pitch controls and the pneumatic signal post at the servo for the CP system will allow the hydraulics to shift the propeller to the full astern position. Should this occur, the mate on watch shall immediately de-clutch the shaft until the air signal can be reestablished.

The CP hydraulic motor driver pump has a chain-driven back-up pump for emergencies should power be lost to the CP pump. The chain drive pump will provide hydraulic pressure as long as the shaft is engaged. Standby is normally set unloaded and will only come on when the hydraulic pressure is lost at the main pump.