KNR 8.7 R/V Knorr
Testing and Running of the Emergency Generator

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1. Purpose

The purpose of this procedure is to set forth guidelines for the testing and running of the Caterpillar 3406B Emergency Generator, under load and no load conditions.

2. Responsibility

It is the responsibility of the Chief Engineer to ensure that the emergency generator is fully functional and tested in accordance with Coast Guard Regulations.

3. References

a. Ross Hill Marine Propulsion System SCR Drive Manual Book Volume 1; 1-37
b. CFR 46; 196.15-3

4. Procedure

The Emergency Generator is run once a week for testing and, under load for 2 hours, once a month. (Reference b.)

TO TEST RUN THE EMERGENCY GENERATOR UNDER NO-LOAD CONDITIONS:

a. On the Emergency Power 480V Panel, switch the Transfer Mode selector switch to Normal Power (straight up).
b. Switch the engine's Start Switch from the neutral position to the "1" position (up).
c. The engine starts but the Normal Power and Emergency Power Breakers do not shift.
d. Run the engine for one half hour.
e. Secure the engine by switching the engine's Start Switch to the "0" position (down).
f. The engine stops. Be sure the engine Start Switch is in the neutral position (middle). Return the Transfer Mode switch to Auto transfer (to the left).

TO TEST RUN THE EMERGENCY GENERATOR UNDER LOADED CONDITIONS:

a. In the ECR, open the Normal Power to the Emergency Buss Breaker CB5.
b. The Emergency Buss will lose power for a few seconds until the Emergency Generator automatically starts and the Normal CB2 and Emergency Power CB1 breakers switch.
c. Run the Emergency Generator for 2 hours.
d. To secure, close CB5 in the ECR and switch the Transfer Mode Switch on the Emergency Power 480V Pan to Normal Power.

e. After 30 seconds or so, the Normal CB2 and Emergency Breaker CB1 will switch automatically back to normal power.
f. Secure engine by switching engine Start Switch to the "0" position (down) until the engine stops, and then return it to the neutral position.
g. Return the Transfer Mode Switch to the Auto Transfer position.

EMERGENCY GENERATOR DEAD BUSS START-UP

a. To start the Emergency Diesel Generator from a dead buss, first check the jacket water and lube oil levels. Check that the air intake overspeed shut off is in the correct position. The handle should be up and level. Check the fuel tank level and check that the fuel valves are open.
b. Next check that the alarm panel switch is in the Auto position.
c. Start the engine by moving the toggle switch on the ESS Junction Box to the up position (a).
d. If the engine overspeeds and shuts down on startup, reset the ESS overspeed switch inside the ESS Junction Box with the startup toggle switch on it, also lift up the handle on the overspeed air shut off damper until the solenoid plunger comes out and allows it to be reset.
e. Once the engine is started, check that the oil pressure and fuel pressure gauges are in the green.
f. At the 480 Volt Emergency Buss, turn the S5 switch to the Auto Transfer position. CB2, the Normal Power breaker, will then open and CB1, the Emergency Power breaker, will close. If this does not happen, open the breaker motor's covers and open CB2 and then close CB1.
g. Once normal power is restored turn the S5 switch to the Normal Power position. After 30 seconds, CB1 will open and then CB2 will close, restoring normal power to the Emergency Buss.

4. Reporting

Tests of the Emergency generator are recorded in the Official Deck Log and in NS5.