

# JOB DESCRIPTION OF ENGINEER

Revised 1/14/12

The engineer reports to and is under the supervision of the vessel captain. He is primarily responsible for the maintenance of all machinery on board the vessel. He maintains an accurate daily log in which he records information required by MTS and action taken by him to properly operate and maintain machinery and equipment entrusted to his care. He reports to the vessel captain immediately any and all incidents and accidents that are a threat to the safety of him, crew members, passengers, the environment, and/or the vessel. He participates in all safety and environmental programs including emergency drills, practices good safety at all times, complies with all MTS rules and procedures, and always strives to provide prompt "First Class" service to the company chartering the vessel. In addition, the engineer assists all other crew members in the performance of their duties and performs other duties as directed by the captain.

## Specific Duties and Responsibilities

1. At the beginning of each voyage and before starting engines:
  - a. Check oil level in main engines.
  - b. Check oil level in generator engines.
  - c. Check oil level in marine gears.
  - d. Check water level in cooling system of all engines.
  - e. Check shaft seals for leakage. Report any leak to captain.
  - f. Check bilges for water—if present, notify captain.
  - g. Check fuel oil level.
  - h. Check fluid level in steering system.
  - i. Check overboard raw water through exhaust at start-up.
  
2. Daily:
  - a. Check oil level in main engines.
  - b. Check oil level in generator engines.
  - c. Check oil level in marine gears.
  - d. Check oil level in auxiliary engines.
  - e. Check water level in cooling system of engines.
  - f. Check water hoses and fuel lines for leaks.
  - g. Check exhaust for leaks.
  - h. Check shaft seals for leakage. Report any leak to captain.
  - i. Check bilges for water, if present, notify captain.
  - j. Check alarm system.
  - k. Check fluid level in hydraulic steering system — do not fill above sight glass.
  - l. Check sight glass on A/C system day tanks.

- m. Change over generators at least every 48 hours. Beware of fire hazard caused by exhaust heat against structures and other vessels. Exhaust heat build-up may require frequent changing of generators or repositioning of vessel. Be sure all electronic equipment is turned off before switching. Inform captain before switching generators. Swap battery switch to other battery. Be sure all equipment is operating properly after switching.
  - n. Record in the Vessel Daily Log any engine room maintenance performed. Also record temperature and pressure readings in Vessel Daily Log once a day.
  - o. Drain water from air compressors.
3. Weekly:
- a. Test fire monitor if vessel is equipped with one.
  - b. Grease water tight doors and dogs and check gaskets.
  - c. Make sure there is no oil in generator air filters.
  - d. Check water level in batteries.
  - e. Check battery connections—keep clean.
4. Within the time period indicated:
- a. During each voyage: Thoroughly inspect the engine room and engines within the first ten (10) minutes of going to full throttle on any run. Make periodic checks every thirty (30) minutes after initial check. Check for any unusual noises, excessive smoke, water, or oil coming from engines, fuel leaks, excessive vacuum on fuel filter canisters, and water leaks from hatches--if present, notify captain immediately. Check all pressure and temperature readings after engines are operating at full throttle for approximately one (1) hour and hourly thereafter. Report excessive or insufficient readings to the captain immediately. Check generator room and aft steering compartment.
  - b. Grease rams and jockey bar in aft steering compartment once a hitch (every fourteen (14) days).
  - c. Change oil, oil filters, and oil filter gaskets on Detroit Diesel main engines every 300 hours.
  - d. Change oil, oil filters, and oil filter gaskets on all generator engines every 500 hours.
  - e. Change oil, oil filters, and oil filter gaskets on auxiliary engines at least every 90 days.
  - f. Clean air breathers as needed.
  - g. Water filters on potable water systems should be changed when water flow is reduced rather than on any daily or hourly schedule.
  - h. Primary fuel filters should be changed as needed, e.g., when engine is losing rpm's, instead of on an hourly time schedule. Try to get a minimum of 500 hours of use out of each filter. Check with the MTS Engine Shop if you have any problems with this schedule.
  - i. Secondary fuel filters should be changed as needed.
  - j. Always keep tools clean, dry, and stored in their proper place.

- k. Always keep engine room and cargo hold neat, orderly, and clean.
  - l. Clean up immediately all oil spillage on decks, on stairways, in cargo holds, and in engine room.
  - m. Always report immediately to captain all vibration, unusual noises, or any leaks, etc. coming from engine room machinery.
  - n. Do not pump any oil overboard. Do not throw used filters or oil soaks overboard. The captain is in charge of all oily waste disposal and records thereof.
  - o. Take on or discharge fuel when instructed to do so by the captain. Ensure that all MTS safety precautions and procedures are followed. Use oil transfer procedures for oil transfers.
  - p. If the deckhand is resting during a voyage, perform his duties relating to passenger safety.
  - q. Keep bilges dry at all times. Vacuum any water and/or oil with shop vac. Use oil soaks as necessary. Dispose of liquids and oil soaks properly.
5. At crew change:
- a. Brief the relief engineer on the condition of the engine room and any problems that you had or any conditions that he needs to be aware of. Tell him which generator is running and for how long.
  - b. Ensure that a well cleaned and orderly engine room is ready for the relief engineer.