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GENERAL

1. ON BOARD TECHNICAL OPERATING PROCEDURES

In addition to any Technical Operating Procedures issued by the Company, the Chief Engineering Officer shall implement and maintain Technical Operating Procedures specific to the mechanical outfit and operation of his ship. These procedures will form part of the Company's SMS and shall be open to both internal and external quality audits.

The following Technical Procedures shall be the minimum standard required on board. This shall not limit the Chief Engineer Officer from implementing additional procedures as he sees fit.

It is prudent that the Chief Engineer Officer adopts strict rules customary to filling in log books which are legal documents. The engine room log book is to be filled in by the OOW, and signed before leaving handing over of his duties. Correct tank levels in the appropriate spaces provided must be filled in. If a ship design is different and needs the log sheet to be changed, he/she can make a change to it to add in a tank or void as an example. Figures logged in log books must tally with the figures shown on PODIUM, voyage abstracts and noon reports. The company wishes to stress that an incorrect declaration of fuel figures is regarded as a fraudulent act in some countries and can/will call for legal action/s against the perpetrators. The Chief Engineer Officer is to audit the log book every day, so engineers understand the importance of same.[1]

2. ON BOARD TECHNICAL PROCEDURES (SHIP SPECIFIC) - MINIMUM STANDARD

a. Chief Engineers Standing Instruction
b. Main Engine start up and shut down.
c. Auxiliary engine start up, shut down and paralleling procedure for alternators.
d. First Start arrangements from "dead ship".
e. Emergency Fire Pump start up.
f. Emergency Generator start up.
g. Steering and Emergency Steering Gear operation.
h. Bunkering.
i. Bilge and Slop Management.
j. Oil Water Separator Operation
k. Oil Spill Contingency Plan.

[1] W 02 / 2023

3. MANUFACTURERS TECHNICAL INSTRUCTION MANUALS

The importance of the Manufacturers Technical Instruction Manuals cannot be over emphasised. Chief Engineer Officers shall ensure that his staff are familiar with the instruction manuals, and that the instructions are followed implicitly. Particular care must be taken to ensure that critical tolerances and torques etc. are followed to the letter.

It is recommended that the Manufacturers Technical Instruction Manual be studied whenever machinery is opened up for overhaul or repair. If any critical instructions are involved, then working copies (photocopies) must be available on site in the engine room. Chief Engineer Officers shall ensure that the manuals are kept in a good clean condition, and that manuals and drawings are returned to their designated storage after use.

4. RESPONSIBILITIES

4.1. The Chief Engineer Officer shall ensure that all machinery and equipment on board (except that under the direct control of the Chief Navigating Officer) is operated and maintained in a safe and responsible manner, within budget, in accordance with sound engineering practice and the manufacturers technical instructions, and in strict conformance with prevailing laws and regulations. Items of machinery and equipment which are critical to the vessels operation, shall be given particular care and attention, and shall be maintained within the operating terms of the maintenance standard set by Company.

4.2. Company policies and instructions, and Manufacturers technical instructions shall be followed implicitly.

4.3. The Chief Engineer Officer shall immediately inform the Master of all machinery breakdowns which may affect the safety of the ship or its cargo, or impair its ability to meet the Charterer's needs.

4.4. Machinery which is immobilised through component failure and which is awaiting the attention of shore facilities to effect repairs shall be preserved in such a way so as to ensure that no further deterioration of the equipment occurs.

4.5. Plant and equipment shall be promptly shut down and isolated when its service is no longer necessary, or if its service is not likely to be immediately required. This applies particularly to diesel alternator sets, cooling water pumps and heat exchangers. The unwarranted running of machinery wastes fuel and lubricating oil, and results in unnecessary fouling and wear and tear. Increased running hours reduces the remaining service lifespan of the unit, and increases exposure to breakdowns.

4.6. Machinery Calibration Records (see Calibration Procedures Section 11)

5. MACHINERY RUNNING HOURS

Machinery Running Hours shall be recorded in Mespas[2];

5.1. Main Engines:

The following items (a) Since New (or renewal), (b) since overhaul.

- main engine.
- cylinder liners.
- pistons.
- piston rings.
- main and bottom end bearings.
- bottom end bearing bolts (and number of times re-torqued).
- vibration damper.
- exhaust valves.
- turbo charger shroud and nozzle rings and bearings.
- fuel injection pump elements.
- fuel injection nozzles.

5.2. Auxiliary Engines

- Since new.
- Since last overhaul.
- Since top overhaul.
- Since lubricating oil change.
- Main and bottom end bearings since new, bottom end bearing bolts since new and number of times re-torqued, and fuel injection pump elements and nozzles since renewal.

6. RECORDING OF MACHINERY RUNNING HOURS

Knowledge of the age of machinery is essential in order to apply the correct maintenance/servicing routines at the appropriate time. For this reason, the accurate logging of running hours of, particularly, main and auxiliary diesels is imperative.

There have been a number of significant instances where running hours have been deliberately set back to zero after a major engine overhaul. This illogical and dangerous practice corrupted

[2] W 30 / 2024

the records on the ships concerned and created an entirely wrong impression as to the actual age of the engine. Torsional vibration-dampers, connecting rods and tie bolts are some of the important components not normally renewed at routine overhauls but which on some engines are 'lifted' (i.e. require renewal/special attention after a specified elapsed number of hours run).

Should major components be replaced at any stage in the life of an engine an appropriate entry should be made in the records and the hours run to date must continue without interruption e.g. 'new crankshaft fitted to No. 4 aux engine 29.03.87 at 63 275 hours.'

Except in the rare instance of a completely new machine being installed on no account may machinery running hours be zero-ed.

7. TESTING OF ENGINES PRIOR TO PORT ENTRY

There have been instances of main engines or CP propellers failing to go astern during berthing operations following port entry from a sea passage. The consequences of this have been costly it terms of contact damage to the ship, the quay and other ships.

On every occasion at end of passage and prior to port entry, the main engine shall be stopped and re-started in the astern or if a CP propeller is fitted, the CP propeller it shall be tested in the astern mode. Close liaison is necessary with the Master, who will ensure that his ship is in a safe position to test the engine or CP propeller astern. If necessary the test may be conducted well to seaward prior to EOP.

8. LIFTING GEAR

Such as chain blocks, slings, shackles, and overhead crane etc. shall be properly maintained and covered by valid certificates of test. An inventory of all such equipment with the certificate expiry date shall be maintained.