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# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 13736.

JUL 1949

Received at London Office

Writing Report 14th July, 1949. When handed in at Local Office 28th July, 1949. Port of MANCHESTER.

Survey held at MANCHESTER. Date, First Survey 15th February, 1949. Last Survey 8th June, 1949. Number of Visits 5.

on the Single Screw vessel M.V. "LUCIANO CASTRO". Tons Gross Net. at Copenhagen. By whom built Kalmar Varv. Yard No. 364. When built.

Scandinavian Steel & Shipping Agency. Port belonging to. Engines made at Altrincham. By whom made Russell Newbery & Co. Ltd., Contract No. 4239. When made 1949.

Generators made at Stockport. By whom made David McClure. Generator Contract No. 1162. When made 1949.

One. Engine Brake Horse Power 40. M.N. as per Rule 10. Total Capacity of Generators 25 Kilowatts.

intended for essential services.

ENGINES, &c.—Type of Engines Vertical Solid Injection Heavy Oil. 2 or 4 stroke cycle 4. Single or double acting Single.

Maximum pressure in cylinders 860 lbs/sq. inch. Diameter of cylinders 4 3/8". Length of stroke 6". No. of cylinders 4. No. of cranks 4.

Indicated pressure 105 lbs/sq. inch. Firing order in cylinders 1, 3, 4, 2. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 5 1/2".

Is there a bearing between each crank Yes. Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 65,000. Revolutions per minute 1,000.

Wheel dia. 22". Weight 263 lbs. Means of ignition Compression. Kind of fuel used Diesel Oil.

Crank Shaft, dia. of journals as per Rule 2 7/8". Approved. Crank pin dia. 2 3/4". Crank Webs Mid. length breadth 3.13/16". Thickness parallel to axis.

Wheel Shaft, diameter as per Rule. Intermediate Shafts, diameter as per Rule. General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>).

Flywheel mounted on end of crankshaft. Means provided to prevent racing of the engine when declutched Yes. Means of lubrication Forced. Kind of damper if fitted.

Are the cylinders fitted with safety valves No. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material.

Working Water Pumps, No. One Ram Type 240 galls/hr. Is the sea suction provided with an efficient strainer which can be cleared within the vessel.

Lubricating Oil Pumps, No. and size One geared type integral with engine, 116 galls/hr.

Compressors, No. No. of stages. Diameters. Stroke. Driven by.

Receiving Air Pumps, No. Diameter. Stroke. Driven by.

AIR RECEIVERS:—Have they been made under Survey. State No. of Report or Certificate.

Each receiver, which can be isolated, fitted with a safety valve as per Rule.

Are the internal surfaces of the receivers be examined. What means are provided for cleaning their inner surfaces.

Where a drain arrangement fitted at the lowest part of each receiver.

High Pressure Air Receivers, No. Cubic capacity of each. Internal diameter. thickness.

Unless, lap welded or riveted longitudinal joint. Material. Range of tensile strength. Working pressure by Rules.

Working Air Receivers, No. Total cubic capacity. Internal diameter. thickness.

Unless, lap welded or riveted longitudinal joint. Material. Range of tensile strength. Working pressure by Rules.

ELECTRIC GENERATORS:—Type Ventilated, Enclosed Louvred, Continuous Rating Compound Wound.

Pressure of supply 220 volts. Full Load Current 114 Amperes. Direct or Alternating Current Direct.

Alternating current system, state the periodicity. Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown

and off Yes. Generators, are they compounded as per Rule Yes. Is an adjustable regulating resistance fitted in series with each shunt field Yes.

Are all terminals accessible, clearly marked, and furnished with sockets Yes. Are they so spaced

shielded that they cannot be accidentally earthed, short circuited, or touched Yes. Are the lubricating arrangements of the generators as per Rule Yes.

Do the generators are under 100 kw. full load rating, have the makers supplied certificates of test Yes. and do the results comply with the requirements Yes.

Do the generators are 100 kw. or over have they been built and tested under survey.

Are there any shafts of driven machinery other than generator.

PLANS.—Are approved plans forwarded herewith for Shafting 30th October, 1947. Receivers. Separate Tanks.

Do the Torsional Vibration characteristics if applicable been approved. Armature shaft Drawing No.

PREPARE GEAR AS PER RULE REQUIREMENTS.

The foregoing is a correct description,

for PRO. RUSSELL NEWBERY & Co. Ltd.

Manufacturer.

DIRECTOR.



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Lloyd's Register Foundation

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Dates of Survey while building { During progress of work in shops - - 1949 .15 Feb. 25 Mar. 1 Apr. 11 May. 8 June. During erection on board vessel - - - Total No. of visits

Dates of Examination of principal parts—Cylinders 1.4.49. Covers 11.5.49. Pistons 25.3.49. Piston rods - Connecting rods 25.3.49. Crank and Flywheel shafts - Intermediate shafts -

Crank shaft { Material O.H. Steel. Tensile strength 41.2 Tons per sq.inch. Elongation 28% on 2". Identification Marks Lloyd's 5924 15.2.49. W.A.C.

Flywheel shaft, Material Identification Marks Identification marks on Air Receivers

Is this machinery duplicate of a previous case Yes. If so, state name of vessel Set No. 3, Yard No. 364 (Mch. Report 13533).

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This engine has been constructed under special survey of tested materials in accordance with the Secretary's letters, approved plans and Rule requirements. The workmanship is good and the engine, when tested in the shop to 4 hours at full load, and 1 hour at 10% overload, gave satisfactory results.

In my opinion, this engine is suitable for installation on board a vessel building to this Society's class for the purpose intended.

Forging Report No. F.5657. & Generator certificates attached herewith.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ON OR BELOW THE SPACE FOR COMMITTEE MINUTE(S).

The amount of Fee ... £ 4 : 0 : 0 When applied for 28.7.1949 Travelling Expenses (if any) £ - : 15 : 0 When received 19

FRI. 12 MAY 1950

Committee's Minute Assigned See minute on file

W.A. Cooper Surveyor to Lloyd's Register of Shipping. Lloyd's Register Foundation