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1950

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D.O.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

14226.

Received at London Office 5 AUG 1950

Date of writing Report 12-7-1950 When handed in at Local Office 2nd August 1950 Port of MANCHESTER.

No. in Survey held at Manchester. Date, First Survey 23-8-49 Last Survey 10th July, 1950
 Reg. Book. Number of Visits 9

on the Single
 Twin
 Triple
 Quadruple
 Screw vessel. *Athel foam*
 Tons Gross
 Net

built at South Bank on Tees. By whom built Smiths Dock. Yard No. - When built

owners. - Port belonging to - Eng.

Engines made at Ashton-u-Lyne. By whom made National Gas & O.E. Co. Ltd. No. 62316 When made 1950
 Generator

Generators made at Sunderland. By whom made Sunderland Forge. No. 41353. When made 1950

No. of Sets 1 Engine Brake Horse Power 77 M.N. as per Rule 19 Total Capacity of Generators 50 Kilowatts.

Set intended for essential services.

OIL 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 750 lbs/sq.in. Diameter of cylinders 8" Length of stroke 12" No. of cylinders 3 No. of cranks 3

Mean indicated pressure 88 lbs/sq.in. Firing order in cylinders 1,3,2. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 10 1/4".

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m² or Kg.-cm.²) 745,000 lb. Revolutions per minute 500.

Flywheel dia 43" Weight 2342 lbs. Means of ignition Compression. Kind of fuel used Light Diesel.

Crank Shaft, dia. of journals as per Rule Approved. 5 1/8" Crank pin dia. 5 1/2" Crank Webs Mid. length breadth 7 1/4" Thickness parallel to axis -

as fitted. Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m² or Kg.-cm.²) 59,000 lb.in.²

Are means provided to prevent racing of the engine when declutched Yes. Means of lubrication Forced. Kind of damper if fitted None.

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Water Cooled.

Boiling Water Pumps, No. 1 - Centrifugal. 3600 G.P.H. Is the sea suction provided with an efficient strainer which can be cleared within the vessel -

Lubricating Oil Pumps, No. and size 1 - Gear Type. 350 G.P.H.

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

Saving 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

Is there a drain arrangement fitted at the lowest part of each receiver

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

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

Low Pressure Air Receivers, No. Total cubic capacity Internal diameter thickness

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

ELECTRIC GENERATORS:—Type Open Type Compound Wound.

Pressure of supply 110 volts. Full Load Current 454. 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

on 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

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 -

Details of driven machinery other than generator Hamworthy S.W. Pump No. 80534. R.W.S. 16-12-49.

SHAFTS.—Are approved plans forwarded herewith for Shafting 20-3-48. Receivers. - Separate Tanks. -

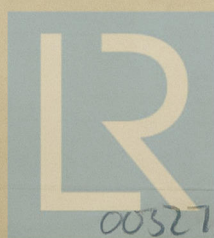
(If not, state date of approval) Torsional Vibration characteristics if applicable been approved - Armature shaft Drawing No. -

(state date of approval) ARE GEAR As per Rule Requirements.

The foregoing is a correct description,

Manufacturer.

THE NATIONAL GAS AND OIL ENGINE Co. Ltd.



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Lloyd's Register

003275-003281-0186

30/8/50

Dates of Survey while building
During progress of work in shops - - - 1949. Aug. 23, Nov. 25, Dec. 16, 29, 1950. Jan. 3, 4, 13 Feb. 1, July 10.
During erection on board vessel - - -
Total No. of visits

Dates of Examination of principal parts—Cylinders 4-1-50. Covers 3-1-50. Pistons 4-1-50. Piston rods -
Connecting rods 4-1-50. Crank and Flywheel shafts 23-8-49. Intermediate shafts -
Tensile strength 32.6 Tons/sq. inch.

Crank shaft { Material O.H. Steel. Identification Marks 6216. T.H.S. 23.8.49.
Elongation 32% on 2". Identification Marks

Flywheel shaft, Material

Identification marks on Air Receivers

Is this machinery duplicate of a previous case Yes. If so, state name of vessel Smith Docks Engine No. 62315.
Mch. Rpt. No. 14170.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This engine has been constructed under special survey of tested materials and in accordance with the Secretary's letters and Rule Requirements. The materials and workmanship are good. The engine was found satisfactory when tested at the Builders Works under the following conditions of loading and coupled direct to its Electric Generator.

5 Hours at 100% Load.

1 Hour at 110% Load.

This deisel generator set is in my opinion suitable to be installed in a vessel classed with the Society for the purpose intended.

Attached herewith copies of following certificates.

Crankshaft Forging Report No. F.6447.

Generator Test Certificate.

Hamworthy Pump Certificate No. D.3599.

The amount of Fee ... £ 4 : 0 : 0d. When applied for 31. 7. 50 (R.L.)
Travelling Expenses (if any) £ 1 : 7 : 0d. When received 19

Committee's Minute

Assigned



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Foundation