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Rpt. 4c.
MAY 1951

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 927.

Received at London Office

25 APR 1951

Date of writing Report 19 When handed in at Local Office 19 Port of NOTTINGHAM.
No. in Survey held at Lincoln. Date, First Survey Last Survey 19
Reg. Book. 45754 on the ^{Single} Twin ^{Triple} Screw vessel For Wallasey Ferry. "ROYAL IRIS"
Built at DUNBAR By whom built WM. DENNY Yard No. 1448 When built 4/1951
To order of Messrs. Metropolitan-Vickers Ltd., Port belonging to 3695/T /13/480174-5-6-7.
Oil Engines made at Lincoln. By whom made Ruston & Hornsby Ltd., Contract No. When made 1951.
Generators made at Manchester. By whom made Metro-Vickers Ltd., Contract No. When made
No. of Sets 4 Engine Brake Horse Power 540 ✓ M.N. as per Rule 135 Total Capacity of Generators 1,200 Kilowatts.
Is Set intended for essential services Yes per engine.

OIL ENGINES, &c.—Type of Engines 6VEBXZ. Engine Nos. 234611-2-3-4. 2 or 4 stroke cycle 4 ✓ Single or double acting S.A.
Maximum pressure in cylinders 735 lbs. Diameter of cylinders 10 1/2" Length of stroke 14 1/2" No. of cylinders 6 No. of cranks 6 ✓
Mean indicated pressure 99.5 Firing order in cylinders 6.5.4.3.2.1. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 12.5/16"
Is there a bearing between each crank Yes Moment of inertia of flywheel 15.75 tons ft. Revolutions per minute 500 ✓
Flywheel dia. 3' 10" Weight 37 cwts. Means of ignition Compression Kind of fuel used Diesel Oil.
Crank Shaft, dia. of journals as per Rule 8" ✓ Crank pin dia. 6.1/4" ✓ Crank Webs Mid. length breadth 11" ✓ Thickness parallel to axis
Mid. length thickness 3.7/16" ✓ Thickness round eyehole
Flywheel Shaft, diameter as per Rule C' shaft. Intermediate Shafts, diameter as fitted General armature, moment of inertia (16 m² or Kg.-cm.²)

Are 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 Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

Cooling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleaned within the vessel

Lubricating Oil Pumps, No. and size One Scavenge - one pressure 550 gals. per hour.

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

Scavenging Air Pumps, No. Diameter Stroke Driven by

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

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can 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

Starting 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 Machine Nos. B.212540/2/S3 - /S1 - /S4 - /S2

Pressure of supply 300 volts. Full Load Current 1000 Amperes. Direct or Alternating Current D.C.

If 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

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

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

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

If the generators are 100 kw. or over have they been built and tested under survey Yes. In possession of Manchester Surveyors.

Details of driven machinery other than generator

PLANS.—Are approved plans forwarded herewith for Shafting Receivers Separate Tanks

(If not, state date of approval) Have Torsional Vibration characteristics if applicable been approved 13.9.49. ✓ Armature shaft Drawing No.

(state date of approval) SPARE GEAR To Rule Requirements.

The foregoing is a correct description,

Ruston & Hornsby Limited.

Manufacturer.

J. F. Birchall

Engineering Divn.



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Lloyd's Register
Foundation

011636-011645-01229

23.10.50. 8.1.51.
Dates of Survey while building { During progress of work in shops - - 3.1.51. 27.12.50. 20.9.50. 1.1.51. 10.1.51. 27.9.50. 12.2.51. 2.2.51. 26.2.51.
During erection on board vessel - -
Total No. of visits 11

Dates of Examination of principal parts—Cylinders 27.12.50. & 1.1.51. Covers as cyls. 21.8.50. 27.9.50. Pistons as cyls. 20.9.50. 23.10.50. 2.2.51. Piston rods -
Connecting rods as cyls. Crank and Flywheel shafts 20.9.50. 23.10.50. 2.2.51. Intermediate shafts

Crank shaft { Material Tensile strength LL.69.
Elongation Identification Marks LL.9623Z. VS.5995.
Flywheel shaft, Material Identification Marks LL.66235. VS.5998.
Identification Marks LL.96229. M.O.T.247.

Identification marks on Air Receivers

Is this machinery duplicate of a previous case If so, state name of vessel

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

These engines have been built under Special Survey in accordance with the Approved Plans and the Regulations of the Society, materials and workmanship being good.

On completion the sets were tried in the shops under working conditions and governors tested with satisfactory results.

The sets have been despatched for installation on board the vessel.

THE PROPULSION DIESEL GENERATOR SETS WERE EFFICIENTLY INSTALLED ON BOARD THE VESSEL AND WERE TESTED UNDER WORKING CONDITIONS WITH SATISFACTORY RESULTS.

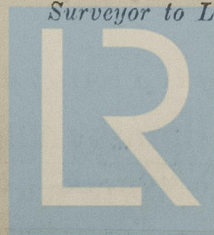
H.K. Taylor.

The amount of Fee ... £ 27 : 0 : 0 { When applied for 23.4. 1951.
per engine.
Travelling Expenses (if any) £ : : When received 19

Committee's Minute

Assigned SEE ACCOMPANYING MACHINERY REPORT

Surveyor to Lloyd's Register of Shipping.



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