

RECEIVED

NEWCASTLE-ON-TYNE, No. 107686.



Form No. 250

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14169.

N.D.O.

Date of writing Report 8th May, 1950. When handed in at Local Office 16th June, 1950. Port of MANCHESTER. Received at London Office 24 JUN 1950

No. in Survey held at MANCHESTER. Date, First Survey 10th Oct. 1949. Last Survey 3rd April, 1950.

Reg. Book. 90237 on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel m/v "ATHEL BEACH" Number of Visits 8. Tons { Gross 7533 Net 4156

Built at Newcastle. By whom built Hawthorn Leslie & Co. Ltd. Engine Yard No. 4062. When built 1950.

Owners ATHEL LINE LD. Port belonging to LIVERPOOL.

Oil Engines made at Ashton-under-Lyne. By whom made National Gas & O.E. Co. Ltd. Engine Contract No. 62314. When made 1949.

Generators made at Sunderland. By whom made Sunderland Forge & Eng. Co. Generator Contract No. 41352. When made 1950.

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

Is Set intended for essential services Yes.

OIL ENGINES, &c.—Type of Engines Vertical Solid Injection Heavy Oil, RA.3 Type. 2 or 4 stroke cycle 4. Single or double acting Single.

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

Mean indicated pressure 88 lbs/sq. inch. 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 lbs. in². Revolutions per minute 500.

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

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

Flywheel Shaft, diameter as per Rule Crankshaft, Intermediate Shafts, diameter as fitted - General armature, moment of inertia (16 m² or Kg.-cm.²) 59,000 lbs. in². sec².

Are means provided to prevent racing of the engine when declutched - Means of lubrication Forced. Kind of damper if fitted -

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

Cooling Water Pumps, No. 1 F.W. Centrifugal 1800 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 S.W. Centrifugal 1800 G.P.H. 1 gear type, 360 G.P.H.

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 C.10893.

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 Open type, drip-proof, compound wound, continuous rating.

Pressure of supply 110. volts. Full Load Current 455. Amperes. Direct or Alternating Current Direct.

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 Yes.

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 Yes.

If 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.

If 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. 80535 Lloyd's R.W.S. 16.12.49.

PLANS.—Are approved plans forwarded herewith for Shafting 20.3.48. Receivers - Separate Tanks -

Have Torsional Vibration characteristics if applicable been approved (state date of approval) - Armature shaft Drawing No. -

SPARE GEAR AS PER RULE REQUIREMENTS. ✓

The foregoing is a correct description,

A. K. Trench

Manufacturer.

THE NATIONAL GAS AND OIL ENGINE Co. Ltd.



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004387-004393-0216

Dates of Survey while building: During progress of work in shops - - 1949. Oct. 10, 13, 19, 24, Nov. 7, 1950. Feb. 21, Mar. 31, Apr. 3. During erection on board vessel - - - Total No. of visits

Dates of Examination of principal parts - Cylinders 10/10/49. Covers 13/10/49. Pistons 13.10.49. Piston rods - Connecting rods 18.10.49. Crank and Flywheel shafts 21.2.50. Intermediate shafts -

Crank shaft: Material O.H. Steel. Tensile strength 35.8 Tons/sq.inch. Elongation 30% on 3". Identification Marks Lloyd's 5724 14.10.48. R.J.Y.

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 Hawthorn Leslie Engs. Nos. 4054 & 4055. Mch. Reports 13950/1.

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, approved plans 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 direct coupled to Electric Generator: - 4 hours 100% Load. 1 Hour 110% Load.

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

Air Receiver Cert. C.10893, Crankshaft Forging Report F.6267, Generator Cert. 41352, Serck Radiator Cert. C.9538 & Hamworthy Pump D.3600 attached herewith.

SURVEY OF MACHINERY.

NEWCASTLE-ON-TYNE

The Generator referred to herein has been satisfactorily installed in M/V "ATHELBEACH" examined under working conditions and governors tried under full load with satisfactory results.

W. Butler Newcastle.

SURVEYOR TO LLOYD'S REGISTER, NEWCASTLE-ON-TYNE.

5m. 4.48.-T. (MADE AND PRINTED IN ENGLAND) (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ 4 : 0 : 0. When applied for 15/4/50 (RM) Travelling Expenses (if any) £ 1 : 5 : 6. When received 19

Committee's Minute FRI 13 OCT 1950

Assigned See Minute on S.C. Rpt.

W. Butler Surveyor to Lloyd's Register of Shipping.



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