

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 11401.

Date of writing Report 11. 3. 1943 When handed in at Local Office 11. 3. 1943 Port of MANCHESTER. Received at London Office 3 SEP 1943
 No. in Survey held at ASHTON-UNDER-LYNE Date, First Survey 14.8.42 Last Survey 1.1.15 MAR 1943
 Reg. Book. ASHTON-UNDER-LYNE Number of Visits 5.

Single on the Twin Triple Quadruple Screw vessel EMPIRE VICERO Tons ^{Gross} _{Net}
 Built at BARROW IN FURNESS By whom built VICKERS ARMSTRONGS LTD. Yard No. 858 When built 1943.

Oil Engines made at ASHTON-U-LYNE By whom made National Gas & O.E.Co. Engine No. 54037 When made 1943.
 Generators made at BIRMINGHAM. By whom made General Electric Co. Generator No. 55861/2 When made 1942.
 No. of Sets 1 Engine Brake Horse Power 300 Nom. Horse Power as per Rule 49 Total Capacity of Generators 180 Kilowatts.

OIL ENGINES, &c.—Type of Engines Heavy Oil Engine Vertical. 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 800 lbs/sq Diameter of cylinders 10" Length of stroke 13" No. of cylinders 5 No. of cranks 5
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 12.3/8" Is there a bearing between each crank Yes.
 Revolutions per minute 550 Flywheel dia. 3'7" Weight 2600 lbs Means of ignition Compression Kind of fuel used Diesel Oil.

Crank Shaft, dia. of journals Approved. as per Rule 7.25" as fitted 7" Crank pin dia. 7" Crank Webs 2.15/16" Mid. length breadth 8 1/2" Thickness parallel to axis Solid.
 Flywheel Shaft, diameter Flywheel mounted on Crank-Intermediate Shafts, diameter as per Rule shaft coupling. as fitted shaft coupling. Thickness around eye-hole Solid.
 Thickness of cylinder liners 13/16".

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes. Means of lubrication Forced Lubrication.
 Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Water Cooled.
 Cooling Water Pumps, No. One incorporated with Engine. Is the sea suction provided with an efficient strainer which can be cleared within the vessel -

Lubricating Oil Pumps, No. and size One incorporated with Engine.
 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 Compound wound, continuous rating, fan ventilated.
 Pressure of supply 220 volts. Full Load Current 820 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 -
 Generators, are they compounded as per rule Yes is an adjustable regulating resistance fitted in series with each
 main 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 Yes
 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.

SHAFTS. Are approved plans forwarded herewith for Shafting 6.1.42. Receivers - Separate Tanks -
 (If not, state date of approval)

SHAFTING GEAR AS PER RULE REQUIREMENTS. ✓

Handwritten calculations:

$$\begin{array}{r} 86 \\ 2 \\ \hline 172 \\ 8.12 \\ \hline 25.16 \end{array}$$

$$\begin{array}{r} 75 \\ 3 \\ \hline 225 \\ 11.5 \\ \hline 33.15 \end{array}$$

The foregoing is a correct description,
 THE NATIONAL GAS AND OIL ENGINE Co. Ltd.
 J. H. Coull

Manufacturer.



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 Foundation
 012019-012026-0244

Handwritten notes:
 24/3/43

Dates of Survey while building

During progress of work in shops - -	14.8.42, 11.9.42, 15.10.42, 31.12.42, 1.1.43.
	During erection on board vessel - - -
Total No. of visits	Five.

Dates of Examination of principal parts—Cylinders 11.9.42. Covers 15.10.42. Pistons 11.9.42. Piston rods -
 Connecting rods 11.9.42. Crank and Flywheel shafts 11.9.42. Intermediate shafts -
 Crank and Flywheel shafts, Material S.M. Steel. Identification Marks LLOYD'S BRINELL DRW 11.9.42.
 Intermediate shafts, Material - Identification Marks -
 Identification marks on Air Receivers -

Is this machinery duplicate of a previous case No. If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, &c. THIS ENGINE HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY OF TESTED MATERIALS AND IS IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND THE RULE REQUIREMENTS. THE WORKMANSHIP AND MATERIALS ARE GOOD AND THE ENGINE, WHEN TESTED IN THE SHOP UNDER FULL LOAD CONDITIONS, GAVE SATISFACTORY RESULTS. IN MY OPINION THIS ENGINE IS SUITABLE TO BE PLACED ON BOARD A VESSEL CLASSED WITH THIS SOCIETY, FOR THE PURPOSE INTENDED.

A COPY OF THE MAKERS' TEST CERTIFICATE ON THE MATERIAL OF THE CRANKSHAFT IS ENCLOSED HEREWITH (SEE SECRETARY'S LETTER OF APRIL 1st, 1942). CHECK BRINELL TESTS HAVE BEEN MADE WITH SATISFACTORY RESULTS.

A COPY OF GENERATOR CERTIFICATE IS ALSO ATTACHED HEREWITH.

Satisfactorily fitted on board.

D. H. Barron
 Barron

SEE MANCHESTER RPT. NO. 11403.

The amount of Fee £	:	:	When applied for,
			19.....
Travelling Expenses (if any) £	:	:	When received,
			19.....

Endorses for D.R. Walburn
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 14 SEP 1943

Assigned *see minute on New S.S. Rpt.*



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 (The Surveyors are requested not to write on or below the space for Committee Minute.)