

Rpt. 4c.

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 1026

Received at London Office **DEC 1952**

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. 95716 on the Single Trawl Quadruple Screw vessel **"TUAREG"** Number of Visits Tons Gross 11460 Net

Built at Sunderland. By whom built Sunderland Forge & Eng. Co. Ltd., Lithgows' Yard No. 1069 When built 3/1953

Owners **WILH. WILHELMSEN** Port belonging to 3868/T/13/510171-2. B.62841.

Oil Engines made at Lincoln. By whom made Ruston & Hornsby Ltd., Engine No. 332501-2 When made 1952

Generators made at Sunderland. By whom made Sunderland Forge & Eng. Co. Ltd., Generator No. 46652-3. When made 1952.

No. of Sets 2 B.H.P. of each Set 136 M.N. as per Rule 34 Capacity of each Generator 75 Kilowatts.

Is Set intended for essential services per engine. per generator.

**OIL ENGINES, &c.**—Type of Engines 4VCBZ. Engines Nos. 332501-2. 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 730 ± 3% Diameter of cylinders 8" Length of stroke 10.3/4" No. of cylinders 4 No. of cranks 4

Mean indicated pressure 104 lb. Span of Bearings ~~XXXXXX~~ (ie. distance between inner edges of bearings in way of crank) 9.3/16"

Is there a bearing between each crank Yes ~~XXXXXX~~ flywheel ~~XXXXXX~~ 9.15 tons ft. 2

Flywheel dia. 3'-9" Weight 21 cwt. Means of ignition Compression Kind of fuel used Diesel Oil.

Crank Shaft, { Solid forged dia. of journals as per Rule. Approved. 6" Crank pin dia. 4.3/4" Crank Webs Mid. length breadth 8" Thickness parallel to axis -

{ Semi-built as fitted. 6" Crank Webs Mid. length thickness 2 1/2" shrunk Thickness round eyehole -

{ All-built as fitted. 6" Crank Webs Mid. length thickness 2 1/2" Thickness round eyehole -

Flywheel Shaft, diameter as per Rule. as fitted. C/shaft. Generator armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) -

Are means provided to prevent racing of the engine Yes 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 driven.

Cooling Water Pumps, No. and how driven one, engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel.

Lubricating Oil Pumps, No. and size 480 gals./hour. Engine driven.

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

Scavenging Air Pumps or Blowers, No. How driven.

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

(other than main engines)

State full details of safety devices

Can the internal surfaces of the receivers be examined and cleaned.

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.

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

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

**ELECTRIC GENERATORS:**—Type Open type, Compound wound, Cont. Rating Nos. 46652-3.

Pressure of supply 110 volts. Full Load Current 682 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 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. 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.

Details of driven machinery other than generator.

**PLANS.**—Are approved plans forwarded herewith for Shafting Standard. 2.4.40. Receivers. Separate Tanks.

(If not, state date of approval) 13.12.51.

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

(State date of approval and name of previous duplicate case, if any)

Has the spare gear required by the Rules been supplied. To Rule Requirements.

The foregoing is a correct description,

Ruston & Hornsby, Limited. Manufacturer.

J. F. Burckhall



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01896-01905-0178



Dates of Survey while building { During progress of work in shops - - 20.10.52. 29.10.52. During erection on board vessel - - - - - Total No. of visits 2

Dates of Examination of principal parts—Cylinders 20.10.52. Covers as cyls. 19.11.51. Pistons as cyls. 19.9.51. & as cyls. 19.9.51. & as cyls. Piston rods - Connecting rods as cyls. Crank and Flywheel shafts Intermediate shafts -

Crank shaft { Material Tensile strength LL.7068. RE.7673. T.D.S. Elongation Identification Marks LL.6256. RE.5388. T.D.S.

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 Standard Type.

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 to Glasgow for installation on board the vessel.

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

H.K. Taylor.

The amount of Fee ... £ 13 0 : 0 When applied for 2/12/1952

Travelling Expenses (if any) £ : : When received 19

Committee's Minute

Assigned

Surveyor to Lloyd's Register of Shipping.



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