

Rpt. 4c. **REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.** No. 1135

Date of writing Report 28.9.54.19 When handed in at Local Office 19 Port of Nottingham. Received at London Office **11 OCT 1954**

No. in Survey held at Lincoln. Date, First Survey 16.8.54. Last Survey 30.8.54. 19
 Reg. Book. on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel " **ISANDA** " Number of Visits 2

Built at to the order of:- By whom built Chantier Et Ateliers de St. Nazaire Vessel No. K. 15. When built
 Owners..... Port belonging to.....

Oil Engines made at Lincoln. C1/63620/13/530093. B. 4362. By whom made Ruston & Hornsby Ltd., Contract No. 382940. When made.....
 Generators made at Bedford. By whom made W. H. Allen, Sons & Co. Ltd., Engine No. E3/60692/1. When made.....
 No. of Sets 1 Engine Brake Horse Power 240 M.N. as per Rule 48. Generator No. E3/60692/1. Total Capacity of Generators 150 Kilowatts.

Is Set intended for essential services.....

OIL ENGINES, &c.—Type of Engines 4VEBZ. 2 or 4 stroke cycle 4 Single or double acting SA

Maximum pressure in cylinders 715 ± 3% Diameter of cylinders 10 1/4" Length of stroke 14 1/2" No. of cylinders 4 No. of cranks 4
 Mean indicated pressure 100 Firing order in cylinders GD² - 28.7 tons ft. 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. ~~XXXXXX~~ flywheel (16 m² or Kg.-cm.²)..... Revolutions per minute 514
 Flywheel dia. 4'-6" Weight 46 cwts. Means of ignition Compression. Kind of fuel used Diesel Oil.

Crank Shaft, dia. of journals as per Rule..... as fitted 8" Crank pin dia. 6 1/8" Crank Webs Mid. length breadth 11" Thickness parallel to axis.....
 as per Rule..... as fitted..... Mid. length thickness 3.7/16" Thickness round eye hole.....

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

Are means provided to prevent racing of the engine when declutched Yes. Means of lubrication..... 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.....

Cooling Water Pumps, No. One Engine driven, the sea suction provided with an efficient strainer which can be cleared within the vessel.
 Lubricating Oil Pumps, No. and size One Engine driven 772 gals/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 D. P. C. W. C. R. Machine No. E3/60692/1.
 Pressure of supply 187.5 volts. Full Load Current 514 Amperes. Direct or Alternating Current D. C.

Is it an 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
 shielded 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..... and do the results comply with the requirements.....
 Do the generators are 100 kw. or over have they been built and tested under survey Yes.

Details of driven machinery other than generator.....

SHAFTS.—Are approved plans forwarded herewith for Shafting Standard approved. 20.12.38. Receivers..... Separate Tanks.....
 (If not, state date of approval)

Have Torsional Vibration characteristics if applicable been approved 14.8.53. Armature shaft Drawing No.....
 (state date of approval)

SHAFTING GEAR Supplied to Rule Requirements.

The foregoing is a correct description,
Ruston & Hornsby, Limited. Manufacturer.
 Y. J. Burchall



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Dates of Survey while building: During progress of work in shops - - 16.8.54. 30.8.54.
During erection on board vessel - - -
Total No. of visits 2.

Dates of Examination of principal parts—Cylinders 16.8.54. Covers As cyls. Pistons - Piston rods -

Connecting rods As cyls. Crank and Flywheel shafts As cyls. Intermediate shafts -

Crank shaft Material Steel. Tensile strength
Elongation Identification Marks LL. 4466. LF. 5897. TDS.

Flywheel shaft, Material Identification Marks

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, etc.)

This Engine has been built under Special Survey in accordance with the Approved Plans and the Rules of the Society, materials and workmanship being good.

On completion, the generating set was tested in the Shops under working conditions and the governing tested with satisfactory results.

The set has been forwarded for installation in the vessel.

The amount of Fee ... £ 19 : 0 : 0 When applied for 8.10.54. C. 19582.
Travelling Expenses (if any) £ : : When received 19

TUESDAY 10 MAY 1955

Committee's Minute
Assigned See Rpt. 4a.



200,847-T. (MADE AND PRINTED IN ENGLAND)
(The Surveyors are requested not to write on or below the space for Committee Minute.)