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14 JUN 1948

M.D.B. 18539.

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 313.

Date of writing Report 19... When handed in at Local Office 19... Port of NOTTINGHAM. Received at London Office 11 JUN 1948

No. in Survey held at Lincoln Date, First Survey... Last Survey... 19... Number of Visits...

Reg. Book. on the Twin Triple Quadruple Screw vessel BERGSUND Tons Gross 1318 Net...

Built at Hartlepool. By whom built Furness Shipbuilding Co. Ltd., Yard No. 417 When built...

Owners... Port belonging to...

Oil Engines made at Lincoln By whom made Ruston & Hornsby Ltd., Contract No. 465004 When made 1948

Generators made at... By whom made Crompton Parkinson Ltd., Contract No. When made...

No. of Sets 1 Engine Brake Horse Power 24.75 M.N. as per Rule 6 Total Capacity of Generators 15 Kilowatts.

Is Set intended for essential services...

OIL ENGINES, &c.—Type of Engines 3VSHZ, Eng. No. 256452 ✓ 2 or 4 stroke cycle 4 ✓ Single or double acting SA ✓

Maximum pressure in cylinders 850 lbs. ✓ Diameter of cylinders 4 1/2" ✓ Length of stroke 4 1/2" ✓ No. of cylinders 3 ✓ No. of cranks 3

Mean indicated pressure 104.5 lbs. ✓ Firing order in cylinders 1-3-2 ✓ Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 5.7/16" ✓

Is there a bearing between each crank Yes ✓ Moment of inertia of flywheel 808 lb.ft. ✓ Revolutions per minute 1100 ✓

Flywheel dia. 22 3/8" ✓ Weight 346 lbs. ✓ Means of ignition Compression ✓ Kind of fuel used Diesel Oil. ✓

Crank Shaft, dia. of journals as per Rule 2 3/8" ✓ as fitted 2 3/8" ✓ Crank pin dia. 2 3/4" ✓ Crank Webs Mid. length breadth 3 3/8" ✓ Thickness parallel to axis -

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

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 No. ✓ 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 cleared within the vessel...

Lubricating Oil Pumps, No. and size one - 180 gals. per hour. Engine driven. ✓

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 Drip proof, compound wound, Continuous rating No. F.101A.4722. ✓

Pressure of supply 220 ✓ volts. Full Load Current 68 ✓ 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... 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

PLANS.—Are approved plans forwarded herewith for Shafting 13.4.43. ✓ Receivers Separate Tanks

Have Torsional Vibration characteristics if applicable been approved Not applicable. ✓ Armature shaft Drawing No.

SPARE GEAR To rule requirements.

Ruston & Hornsby Limited.

The foregoing is a correct description, Engineering Divn.

W1006-0128



Dates of Survey while building  
 During progress of work in shops - - 13.10.47. 24.9.47. 15.3.47.  
 During erection on board vessel - - -  
 Total No. of visits

Dates of Examination of principal parts—Cylinders. 13.10.47. Covers. 13.10.47. Pistons. 13.10.47. Piston rods. -  
 Connecting rods. 13.10.47. Crank and Flywheel shafts. 13.10.47. 24.9.47. Intermediate shafts.

Crank shaft { Material..... Tensile strength.....  
 Elongation..... Identification Marks. LL.1491. RD.6770.

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, &c.)

This engine has 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 generating set was tried in the Shops under working conditions and found satisfactory.

The generating set has been forwarded to Hartlepool for installation on board the vessel.

*This engine has been securely fitted on board & tried out under working conditions & found satisfactory.*

*L. Norman Hart.*

111,846-T. (MADE AND PRINTED IN ENGLAND)  
 (The Surveyors are requested not to write on or below the space for Committee Minutes.)

The amount of Fee ... £ 4 : 0 : 0 { When applied for 8-6- 19 48.  
 Travelling Expenses (if any) £ : : { When received 19

Committee's Minute

FRI. 30 JUL 1948

Assigned

*See F.E. mch. rpt.*

*West*  
 Surveyor to Lloyd's Register of Shipping.



Lloyd's Register of Shipping  
 Foundation