

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 20978

JUN 13 1939

Date of writing Report 9th June 1939 When handed in at Local Office 9th June 1939 Port of Grimsby  
 No. in Survey held at Lincoln Date, First Survey 27.1.38 Last Survey 1.6.1939  
 Reg. Book. 36311 on the Single Screw vessel " WAIOTIRA " Number of Visits 24

Port at Belfast By whom built Harland & Wolff, Ltd Yard No. 1019 When built  
 Owners Port belonging to

Oil Engines made at Lincoln By whom made Ruston & Hornsby, Ltd Engine Contract No. 197823 When made 1939  
 Generators made at Horwich By whom made Laurence, Scott & Electromotors, Ltd Generator Contract No. 48594 When made 1939  
 No. of Sets One Engine Brake Horse Power 40 Nom. Horse Power as per Rule 11.4 Total Capacity of Generators 25 Kilowatts.

**ALL ENGINES, &c.**—Type of Engines 3 VQZ-Vertical Solid Injection 2 or 4 stroke cycle 4 Single or double acting Single  
 Maximum pressure in cylinders 800 lbs Diameter of cylinders 5 3/8" Length of stroke 8" No. of cylinders 3 No. of cranks 3  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 6 1/4" Is there a bearing between each crank Yes  
 Revolutions per minute 445 Flywheel dia. 32" Weight 700 lbs Means of ignition Compression Kind of fuel used Heavy oil

Crank Shaft, dia. of journals as per Rule Approved Crank pin dia. 3 1/4" Crank Webs Mid. length breadth 5 3/8" Thickness parallel to axis  
 as fitted 3 5/8" Mid. length thickness 1 3/4" Thickness around eye-hole  
 Flywheel Shaft, diameter as per Rule Approved Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 1/2"  
 as fitted 3 5/8"

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

Lubricating Oil Pumps, No. and size One, geared.  
 Air Compressors, No. Yes No. of stages Yes Diameters Yes Stroke Yes Driven by Yes  
 Sucking Air Pumps, No. Yes Diameter Yes Stroke Yes Driven by Yes

**AIR RECEIVERS:**—Have they been made under Survey Yes State No. of Report or Certificate  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes  
 Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Inspection hole  
 Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. Yes Cubic capacity of each Yes Internal diameter Yes thickness Yes  
 Seamless, lap welded or riveted longitudinal joint Yes Material Yes Range of tensile strength Yes Working pressure by Rules Yes  
 Starting Air Receivers, No. One Total cubic capacity 11.2 Cub. ft. Internal diameter 2'-0 1/8" thickness 5/16"  
 Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 26-30 Tons Working pressure by Rules Approved

**ELECTRIC GENERATORS:**—Type Screen Protected  
 Pressure of supply 220 volts. Full Load Current 114 Amperes. Direct or Alternating Current Direct  
 Is an alternating current system, state the periodicity Yes Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on and off Yes  
 Are the generators, are they compounded as per rule Yes Is there an adjustable regulating resistance fitted in series with each generator 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  
 Do 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  
 Do the generators are 100 kw. or over have they been built and tested under survey Yes

APPROVED. Are approved plans forwarded herewith for Shafting 7-7-32 Receivers 5-5-38 Separate Tanks 25-2-38  
 (If not, state date of approval)

**SHAFTING AND GEAR**  
 As per Rule requirements

The foregoing is a correct description.

Ruston & Hornsby Limited,  
H. C. W. Kumbor

Manufacturer.



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Lloyd's Register  
Foundation

Oil & Gas Engine Dept.

W1139-0153

20/6/39

Dates of Survey while building  
 During progress of work in shops - 1938 Jan 27 Feb 3-21 May 9-10 Jun 2-3 Jul 5-11 Oct 10-20 Nov 28 Dec 5 1939 Feb 16 Mar 7 Apr 5-17 May 1-15-22-23  
 During erection on board vessel - - -  
 Total No. of visits 24

Dates of Examination of principal parts—Cylinders 23-5-39 Covers 23-5-39 Pistons 23-5-39 Piston rods ✓

Connecting rods 7-3-39 Crank and Flywheel shafts 5-12-38, 23-5-39 Intermediate shafts ✓

Crank and Flywheel shafts, Material Steel Identification Marks LLOYD'S 3426-5-12-38 AS.

Intermediate shafts, Material Housing Identification Marks LLOYD'S 3480-24-4-39 AS.

Identification marks on Air Receivers  
 E 1539  
 Lloyd's Test  
 600 lbs.  
 WP 300 lbs.  
 1-6-39 AS.

Is this machinery duplicate of a previous case Yes If so, state name of vessel Guna Rps No. 19187

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 This engine has been built under special survey in accordance with the Rules and approved plans.  
 The workmanship and materials are good.  
 Running tests have been carried out at the Maker's works with satisfactory results.  
 The set has been despatched to Messrs Harland & Wolff, Ltd. Belfast for fitting on board the vessel.  
 This engine & generator have been efficiently installed and tested under working conditions with satisfactory results.

Im. 11. 137. - Transfer. (MADE IN ENGLAND.)  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

9/3862/7/38/12/674 - P/12/131-46  
 The amount of Fee ... £ 4: 19: 9.6 39  
 (30/- already paid) 1/-  
 Travelling Expenses (if any) £ unity  
 When applied for, 9.6 39  
 When received, 1/12/39

*W. H. ...*  
 Surveyor to Lloyd's Register of Shipping.

TUE 12 DEC 1939

Committee's Minute  
 Assigned

See Rel. 12500



Low ... 103 - 304