

RECEIVED

21 MAY 1951

IN D.O.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS

Bel 15283

No. 11082

17 MAY 1951

Date of writing Report 20 May 1951 When handed in at Local Office 14 5 1951 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 2. 2. 51 Last Survey 23. 4. 1951
 Reg. Book. Number of Visits 7

on the Single Screw vessel SS "RHODESIA CASTLE" Tons { Gross 17040.76
 Net 9424.56
 Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 1431 When built 1951
 Owners The Union-Castle Line S.S. Co. Ltd. Port belonging to Southern
 Oil Engines made at Glasgow By whom made Harland & Wolff Ltd. Contract No. 601481 When made 1951
 Generators made at Belfast By whom made Harland & Wolff Ltd. Contract No. 9704 When made 1951
 No. of Sets 1 Engine Brake Horse Power 110 M.N. as per Rule 27.5 Total Capacity of Generators 75 Kilowatts.
 Is Set intended for essential services Emergency generator

OIL ENGINES, &c.—Type of Engines Heavy oil Engine, Airless injection 2 or 4 stroke cycle 4 Single or double acting single
 Maximum pressure in cylinders 800 lbs/sq. in. Diameter of cylinders 250% Length of stroke 300% No. of cylinders 8 No. of cranks 3
 Mean indicated pressure 100 lbs/sq. in. Firing order in cylinders 1. 3. 2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 308%
 Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m² or Kg.-cm.²) 367.5 K.M.² Revolutions per minute 500
 Flywheel dia. 1170% Weight 1702 Kgs. Means of ignition Comp. Kind of fuel used Dist. oil
 Crank Shaft, dia. of journals as per Rule as approved Crank pin dia. 160% Crank Webs Mid. length breadth 230% Thickness parallel to axis 5
as fitted 180% as fitted 80% shrunk Thickness round eye-hole 5
 Flywheel Shaft, diameter as per Rule as approved Intermediate Shafts, diameter as per Rule as approved General armature, moment of inertia (16 m² or Kg.-cm.²) 37.1 K.M.²
as fitted 80% as fitted 5
 Are means provided to prevent racing of the engine when declutched Yes Means of lubrication Forced Kind of damper if fitted None
 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged
 Cooling Water Pumps, No. 1 off. Cent. 6 in. dia./hr. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Lubricating Oil Pumps, No. and size 1 off. Centrifugal type 2.6 in. dia./hr.
 Air Compressors, No. 1 off. No. of stages 2 Diameters "Hamworthy" Comp. No. 79438 Stroke Driven by belt drive
 Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓
AIR RECEIVERS:—Have they been made under Survey Supplied by H. W. Ltd. Belfast 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 Comp. Pres. Compound wound, Continuous Rating
 Pressure of supply 230 volts. Full Load Current Amperes Direct or Alternating Current Direct
 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 ✓ 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 28. 7. 1948 Receivers ✓ Separate Tanks ✓
 (If not, state date of approval) ✓ Have Torsional Vibration characteristics if applicable been approved Yes 16. 8. 1948 Armature shaft Drawing No. ✓
 (state date of approval) ✓
SPARE GEAR As per Lub. requirements

The foregoing is a correct description,

For HARLAND AND WOLFF, LIMITED

Manufacturer.

Finniston Secretary



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Lloyd's Register
Foundation

005353-005357-0076

Dates of Survey while building
During progress of work in shops - - 5. 2. 51. 14. 2. 51. 19. 2. 51. 5. 3. 51. 10. 3. 51. 23. 4. 51. 1. 5.
During erection on board vessel - -
Total No. of visits 7 in shop.

Dates of Examination of principal parts—Cylinders 5. 3. 51. Covers 12. 1. 51. Pistons 5. 3. 51. Piston rods
Connecting rods 14. 2. 51. Crank and Flywheel shafts 2. 2. 51. Intermediate shafts

Crank shaft Material 5. 4. 51. Tensile strength 30.7 tons/10"
Elongation 30% on 3" Identification Marks TEST 153 N° 21496 O.B. 5. 2

Flywheel shaft, Material Identification Marks

Identification marks on Air Receivers

Is this machinery duplicate of a previous case? If so, state name of vessel "British Liners"

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The Auxiliary Engine has been constructed under special survey in accordance with the Rules and approved Plans.

The materials used and workmanship are good, and on completion the engine was coupled to the Generator supplied by Harland & Wolff Ltd. Belfast. Tested on the shop load - found satisfactory. The General Vibration characteristics have been approved for a service speed of 500 R.P.M. (Secretary's letter 28. 7. 48.)

The Generating Set has now been dispatched to Messrs Harland & Wolff Ltd. Belfast. to be installed on board a vessel building at Belfast.

Generating Unit installed on board and examined under working conditions with satisfactory results.

J.D. Smith

The amount of Fee £ 5 : 10 : 0 When applied for 16 MAY 1951

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

Committee's Minute GLASGOW 16 MAY 1951

Assigned Inspected for Completion

St. L.

Surveyor to Lloyd's Register of Shipping.

TUES. 4 DEC 1951

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