

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 12451

Received at London Office 11 SEP 1939

Date of writing Report 19 31 When handed in at Local Office 8: 9 1939 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 4.8.38 Last Survey report 19
 Reg. Book. 46447 Number of Visits

on the Single Screw vessel "WELLINGTON STAR" Tons } Gross
 { Triple
 { Quadruple } Net
 Built at Belfast By whom built Harland + Wolff Ltd. Yard No. 1016 When built 1939
 Owners Blue Star Line, Ltd. Port belonging to Belfast
 Oil Engines made at Belfast By whom made Harland + Wolff, Ltd. Contract No. 1016 When made 1939
 and dia Generators made at Milton, Birmingham By whom made General Electric Co. Ltd. Contract No. 97859/701 When made 1939
 No. of Sets 3 Engine Brake Horse Power 1440 Nom. Horse Power as per Rule 1417 Total Capacity of Generators 990 Kilowatts.

IL ENGINES, &c. Type of Engines Harland + Wolff - 13 cv. Airless injection 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 500 Diameter of cylinders 330 mm. Length of stroke 580 mm. No. of cylinders 6 No. of cranks 6
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 400 mm. Is there a bearing between each crank Yes
 Revolutions per minute 300 Flywheel dia. 1900 mm. Weight 4000 Kg. Means of ignition Compression Kind of fuel used diesel oil
 Crank Shaft, dia. of journals as per Rule approved Crank pin dia. 220 mm. Crank Webs Mid. length breadth mean 292 mm. Thickness parallel to axis } Solid
 as fitted 280 mm. Mid. length thickness 115 mm. Thickness around eye-hole } forged
 Flywheel Shaft, diameter as per Rule 270 mm Intermediate Shafts, diameter as per Rule 270 mm Thickness of cylinder liners 24 mm.

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication faced
 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. See report on Main Engines Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Lubricating Oil Pumps, No. and size Three 8.4 cub. metres per hour at 300 r.p.m.
 Air Compressors, No. Two No. of stages 2 Diameters 400 - 350 Stroke 260 Driven by Electric motor
 scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

R RECEIVERS:—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 open ends
 Is there a drain arrangement fitted at the lowest part of each receiver Yes
 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. Two Total cubic capacity 180 litres Internal diameter 14" thickness 1/2"
 Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 28/32 Working pressure by Rules 966 lbs.

ELECTRIC GENERATORS:—Type Compound-wound
 Pressure of supply 220 volts. Load 4500 total Amperes. Direct or Alternating Current direct
 Is an alternating current system, state frequency of periods per second ✓
 Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes
 Do the generators, do they comply with the requirements regarding rating Yes are they compound wound Yes
 Are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator ✓
 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
 A.N.S. Are approved plans forwarded herewith for Shafting 6.4.38 Receivers ✓ Separate Tanks 16.3.39.
 (If not, state date of approval)

ARE GEAR
In accordance with the rules - see separate list.

The foregoing is a correct description,
 For HARLAND AND WOLFE, LIMITED.
A. J. Marshall Secretary. Manufacturer.
 Shipping
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Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - - }
 Total No. of visits

Dates of Examination of principal parts—Cylinders 2.3.39 to 21.4.39 Covers and Pistons 24.2.39 to 25.4.39 Piston rods ✓

Connecting rods 9.3.39 3.4.39 7.4.39 Crank and Flywheel shaft 2.3.39 23.39 21.3.39 Intermediate shaft ✓ 

Crank and Flywheel shafts, Material S.M. Steel Identification Mark LLOYD'S 280

Intermediate shafts, Material ✓ Identification Marks ✓

Is this machinery duplicate of a previous case Yes If so, state name of vessel "Sydney Star" ✓

General Remarks (State quality of workmanship, opinions as to class, etc.)

These engines have been constructed under special survey. The materials and workmanship are good. They have been efficiently installed on board the vessel and tried out under working conditions with satisfactory results. The main generators were constructed under survey and the electrical installation tried out satisfactorily.

111.9.28—Transfer. (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ :
 Travelling Expenses (if any) £ :
 When applied for, 19...
 When received, 19...

Alfred James & *John S. Thomas*
 Surveyors to Lloyd's Register of Shipping.

Committee's Minute

19 SEP 1939

Assigned

See Del. J.C. Rpt. 12451



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