

Rpt. 4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 64727

Received at London Office

4 DEC 1941

Date of writing Report

19

When handed in at Local Office

29: 11: 41 Port of Glasgow.

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey 19: 6: 40 Last Survey 3: 11: 19 41

Number of Visits 4

Single
on the Twin
Triple
Quadruple

Screw vessel

"EMPIRE GRACE."

Tons { Gross 3477.9
Net 9440.5

Built at Belfast

By whom built Harland & Wolff. Ltd.

Yard No. 1051 When built

Owners

Port belonging to

Oil Engines made at Glasgow

By whom made Harland & Wolff. Ltd.

Contract No. 1051 When made 1941

Generators made at Belfast

By whom made Harland & Wolff. Ltd.

Contract No. When made

No. of Sets 4 Engine Brake Horse Power 480 Nom. Horse Power as per Rule 548 Total Capacity of Generators 1320 Kilowatts.

OIL ENGINES, &c.—Type of Engines Heavy oil, Airless injection 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 700 lb. 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. 1090 mm. Weight 4 tons Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 280 mm. as fitted 280 mm. Crank pin dia. 220 mm. Crank Webs Mid. length breadth 292 mm. Thickness parallel to axis 115 mm. Mid. length thickness 115 mm. Thickness around eyehole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thickness of cylinder liners 24 to 20 mm.

Is a governor or other arrangement fitted to prevent racing of the engine when disengaged 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 lagged.

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 each engine at 7.2 tons per hour.

Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. Diameter Driven by

AIR RECEIVERS:—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 To be fitted at Belfast.

Pressure of supply 222 volts. Load 1490 Amperes. Direct or Alternating Current D.C.

If 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

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

PLANS. Are approved plans forwarded herewith for Shafting yes Receivers Separate Tanks

SPARE GEAR As per attached list.

The foregoing is a correct description,
For HARLAND AND WOLFF LIMITED.

Wm. J. Wright.

Manufacturer.

Finnleaton Secretary



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Lloyd's Register
Foundation

003816-003823-0055

Dates of Survey while building { During progress of work in shops - - } 1940 June: 19 Aug: 5.7.30 Sep: 2.4.20 Oct: 18 Dec: 9.10.12.17.27 (1941) Jan: 7.13.14.24 Feb: 5.17.
 { During erection on board vessel - - } 26 Mar: 18.24.25.26.28 Apr: 8.22 June: 13.19.27 July: 10.11.14.18.30 Aug: 12.28.29 Sep: 1 Oct:
 Total No. of visits 14 14.15.16 Nov: 3

Dates of Examination of principal parts—Cylinders 18-3-41 10-12-40 8-4-41 13-6-41 25-3-41 28-3-41 13-6-41 15-10-41 12-8-41 1-9-41 16-10-41 28-8-41 15-10-41 Piston rods ✓
 Connecting rods 8-4-41 13-6-41 28-8-41 15-10-41 Crank and Flywheel shaft 7-1-41 ; 22-5-41 Intermediate shaft ✓
 Crank and Flywheel shaft, Material Steel Identification Mark S.1160 P.9. 471 P.9. S.1635 P.9. 529 P.9. Intermediate shafts, Material ✓ Identification Marks ✓

Is this machinery duplicate of a previous case? Yes. If so, state name of vessel Empire Hope. Glasgow Rpt No. 63570

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

This auxiliary machinery has been built under Special Survey and in accordance with the approved plans and the Rules of this Society.

The materials and workmanship are good.

On completion the machinery has been tested under full load on the Works test bed with satisfactory results. It has now been despatched to Belfast to be installed on board the vessel.

Ed
 29/11/41

These auxiliary engines have now been efficiently fitted on board the vessel and tried under full working conditions with satisfactory results.

S. Shaw.
 18/4/42.

The amount of Fee ... £ 54 : 16 : 2 DEC 1941
 Travelling Expenses (if any) £ : : When received, 19

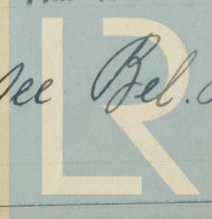
Committee's Minute GLASGOW 2 DEC 1941

Assigned Depeera

P. Fitzgerald.

Surveyor to Lloyd's Register of Shipping.

FRI. 24 APR 1942



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