

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 63570

Received at London Office **MAR 13 1941**

Date of writing Report 19 **10: 3: 1941** When handed in at Local Office **10: 3: 1941** Port of **Glasgow**

No. in Survey held at **Glasgow** Date, First Survey **19: 6: 40** Last Survey **28: 2: 1941**

Reg. Book. **Single** on the **Twin** **Triple** **Quadruple** Screw vessel **"EMPIRE HOPE"** Tons **Gross** **Net**

Built at **Belfast** By whom built **Harland & Wolff, Ltd.** Yard No. **1050** When built **1941**

Owners **Ministry of War Transport** Port belonging to **Belfast**

Oil Engines made at **Glasgow** By whom made **Harland & Wolff, Ltd.** Contract No. **1050** When made **1941**

Generators made at **Belfast** By whom made **Harland & Wolff, Ltd.** Contract No. **1050** When made **1941**

No. of Sets **3** Engine Brake Horse Power **480** each Nom. Horse Power as per Rule **411** Total Capacity of Generators **990** Kilowatts.

**OIL ENGINES, &c.**—Type of Engines **Heavy oil. Airlux 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. Appl. 280 mm.** Crank pin dia. **220 mm.** Crank Webs **Mid. length breadth 292 mm** Thickness parallel to axis **shrunk** Mid. length thickness **115 mm** Thickness around eye hole

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 detached **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. **Ship's System** Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size **1 each engine @ 7.2 tons per hour.**

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

Scavenging Air Pumps, No. Diameter Stroke 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 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

Generators, do they comply with the requirements regarding rating are they compound wound

are they over compounded 5 per cent. if not compound wound state distance between each generator

is an adjustable regulating resistance fitted in series with each shunt field Are all terminals accessible, clearly marked, and furnished with sockets

are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Are the lubricating arrangements of the generators as per Rule

**PLANS.** Are approved plans forwarded herewith for Shafting **29-9-39** Receivers **✓** Separate Tanks **✓**

(If not, state date of approval)

**SPARE GEAR** **As per attached list. ✓**

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

Wm. J. Wright.

Manufacturer.



© 2020

Lloyd's Register  
Foundation

W1195-0090



Dates of Survey while building  
 During progress of work in shops - 1940 June: 19 Aug: 5.7.13.27.30 Sep: 2.4.20 Oct: 7.9.18 Nov: 5.12.21.22.28 Dec: 9.16.20  
 During erection on board vessel - 27 (1941) Jan: 10.13.24.27 Feb: 5.14.17.19.24.25.28  
 Total No. of visits 32

Dates of Examination of principal parts - Cylinders 2-9-40 15-10-40 27-12-40  
 Covers 30-8-40 6 9-12-40  
 Pistons 28-11-40 16-12-40 27-12-40  
 Piston rods ✓  
 Connecting rods 28-11-40 16-12-40 27-12-40  
 Crank and Flywheel shafts 19-6-40; 7-8-40; 7-10-40  
 Intermediate shaft ✓  
 Crank and Flywheel shaft, Material Steel Identification Mark 199 223 376 } 127.  
 Intermediate shafts, Material ✓ Identification Marks ✓

Is this machinery duplicate of a previous case Yes If so, state name of vessel Harland & Wolff. (Belfast) Eng. No. 1016.

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 & 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.

10/3/41 These auxiliary engines have now been efficiently fitted on board the vessel and tried under full working conditions with satisfactory results.

R. Shaw.  
 27/10/41

The amount of Fee ... £ 41 : 2 :  
 Travelling Expenses (if any) £ : :  
 When applied for, 11 MAR 1941  
 When received, 19

Committee's Minute GLASGOW 11 MAR 1941

Assigned Separated

P. Fitzgerald.  
 Surveyor to Lloyd's Register of Shipping.

21 NOV 1941  
 See Bel. L. E. 13091  
 Lloyd's Register Foundation