

Bel. 13091

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS, No. 63570

Received at London Office MAR 13 1941

Date of writing Report 19 10: 3: 19 41 Port of Glasgow  
When handed in at Local Office  
No. in Survey held at Glasgow Date, First Survey 19: 6: 40 Last Survey 28: 2: 19 41  
Reg. Book. Number of Visits 32

on the <sup>Single</sup> ~~Twin~~ <sup>Triple</sup> ~~Quadruple~~ Screw vessel "EMPIRE HOPE"  
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. 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 Appl. 280 mm Crank pin dia. 220 mm. Crank Webs Mid. length breadth 292 mm Thickness parallel to axis shrunk  
as fitted 280 mm 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.  
as fitted 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 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 material Internal diameter thickness  
Seamless, lap welded or riveted longitudinal joint 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  
SPARE GEAR As per attached list.

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

Wm. J. Wright.

Manufacturer.



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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 13-10-40 27-12-40 Covers 30-8-40 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.

606  
10/13/41

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

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

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

FRI, 21 NOV 1941

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