

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 10.850

Date of writing Report 19 When handed in at Local Office 19 May 1932 Port of Belfast  
 Received at London Office 23 MAY 1932  
 No. in Survey held at Reg. Book. Belfast Date, First Survey all visits included in 18. mch. ylt. Last Survey 19  
 Number of Visits  
 40630 on the Twin Screw vessel HIGHLAND PATRIOT Tons { Gross 14130 Net 8920  
 Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 916 When built 1932  
 Owners Nelson Ste. Nav. Co. Ltd. (H.M. Nelson Ltd. mops.) Port belonging to Belfast  
 Oil Engines made at Belfast By whom made Harland & Wolff Ltd. Contract No. 916 When made 1932  
 Generators made at Belfast By whom made Harland & Wolff Ltd. Contract No. 916 When made 1932  
 No. of Sets 4 Engine Brake Horse Power 300 Nom. Horse Power as per Rule Total Capacity of Generators 800 Kilowatts.

**OIL ENGINES, &c.**—Type of Engines Harland & Wolff-B.M. diesel 2 or 4 stroke cycle 4 Single or double acting single  
 Maximum pressure in cylinders 500 lbs/sq. in. Diameter of cylinders 330 mm. Length of stroke 600 mm. No. of cylinders 4 No. of cranks 4  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 442 mm. Is there a bearing between each crank yes  
 Revolutions per minute 225 Flywheel dia. 1.9 metres Weight 6,100 Kilo. Means of ignition Compression Kind of fuel used diesel oil  
 Crank Shaft, dia. of journals as per Rule approved Crank pin dia. 220 mm. 62 mm. Crank Webs Mid. length breadth 410 mm Thickness parallel to axis 125 mm  
 as fitted 200 mm. 62 mm. Mid. length thickness 125 mm shrunk Thickness around eyehole 90 mm  
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thickness of cylinder liners 24 mm.  
 as fitted 200 mm. Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched 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 Yes  
 Cooling Water Pumps, No. 3 one fresh water with stand-by from salt water Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
 Lubricating Oil Pumps, No. and size 3 one of 5.6 ltrs/hr.  
 Air Compressors, No. 3 No. of stages 3 Diameters 45-408-92 mm. Stroke 300 Driven by fusate imp.  
 Scavenging Air Pumps, No. none Diameter Stroke Driven by  
**AIR 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 open ends What means are provided for cleaning their inner surfaces  
 Is there a drain arrangement fitted at the lowest part of each receiver Yes  
 High Pressure Air Receivers, No. 2 Total 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. 2 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 3 Compound wound Dynamos  
 Pressure of supply 220 volts. Load each 110 Amperes. Direct or Alternating Current Direct  
 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 Receivers Separate Tanks  
 (If not, state date of approval)  
**SPARE GEAR** See Spare Gear list

RETAIN

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

*W. H. L.*

Manufacturer.



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W406-0132

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 and Covers 14.8.31 & 8.12.31 Pistons Piston rods  
Connecting rods 29.9.31 & 8.12.31 Crank and Flywheel shafts 8.9.31 13.10.31 12.11.31 26.11.31 Intermediate shaft  
Crank and Flywheel shafts, Material S.M. O.H. Steel with Nickel Steel Flywheel Identification Mark Lloyd's Nos. 168-172-174-175 R.L.A.  
Intermediate shafts, Material Identification Marks

Is this machinery duplicate of a previous case Yes If so, state name of vessel "Highland Monarch" &c

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

These auxiliary sets were constructed under special survey. The materials and workmanship are sound and good. They were tried out on the test bed, efficiently installed on seats in the main motor room of the vessel and tested under working conditions with satisfactory results.

(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

Committee's Minute

TUE. 24 MAY 1932

Assigned

See F.C. Rpt.

R. Lee Ames.  
Surveyor to Lloyd's Register of Shipping.



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