

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 92828

Gauger No. 48696

Date of writing Report 28 JUN 1928 When handed in at Local Office 28 JUN 1928 Port of London  
 No. in Survey held at Bedford Date, First Survey 2nd April 1928 Last Survey June 13th 19 28  
 Reg. Book. Number of Visits

on the Single Screw vessel "DUCHESS OF RICHMOND" Tons { Gross 200 22  
Twin Net 118 15  
Quadruple  
 Built at Glasgow By whom built J. Brown & Co. L. Yard No. 523 When built 1928  
 Owners Canadian Pacific S.S. Co. Port belonging to London  
 Oil Engines made at Bedford By whom made Messrs. W. H. Allen Sons & Co. Contract No. 82901/1/2 When made 1928  
 Generators made at Bedford By whom made Messrs. W. H. Allen Sons & Co. Contract No. 82901/1/2 When made 1928  
 No. of Sets Two Engine Brake Horse Power 1350 each Nom. Horse Power as per Rule 371 1/2 Total Capacity of Generators 900 Kilowatts.

OIL ENGINES, &c.—Type of Engines Diesel (Burmastar - Main) 2 or 4 stroke cycle 4 Single or double acting S.A.  
 Maximum pressure in cylinders 500 lbs/sq. in. Diameter of cylinders 410 in. Length of stroke 600 in. No. of cylinders 6 No. of cranks 6  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 506 in. Is there a bearing between each crank Yes  
 Revolutions per minute 250 Flywheel dia. 2220 in. Weight 6.9 tons. Means of ignition Compression Kind of fuel used Diesel  
 Crank Shaft, dia. of journals 227 in. as per Rule 240 in. as fitted Crank pin dia. 240 in. Crank Webs 360 in. Mid. length breadth 127 in. Mid. length thickness 127 in. Thickness parallel to axis SOLID FORGED  
 Flywheel Shaft, diameter CRANK SHAFT Intermediate Shafts, diameter as per Rule Thickness of cylinder liners 29.5 in.  
 Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Mechanical forced  
 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material  
 Cooling Water Pumps, No. One per engine (hand driven) Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
 Lubricating Oil Pumps, No. and size One geared to each engine  
 Air Compressors, No. One to each engine No. of stages 3 Diameters 340x304x70 in. Stroke 260 in. Driven by Crank on engine  
 Scavenging Air Pumps, No. 1 Diameter 14 in. Stroke 14 in. Driven by 1

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes Fusible plug  
 Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Ends portable  
 Is there a drain arrangement fitted at the lowest part of each receiver Yes  
 High Pressure Air Receivers, No. One per engine Cubic capacity of each 90 likes Internal diameter 9 3/4 in. thickness 3/8 in.  
 Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 29/33 1/2 Working pressure by Rules 1026 lbs/sq. in.  
 Starting Air Receivers, No. One per engine Total cubic capacity 230 likes Internal diameter 14 in. thickness 1/2 in.  
 Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 29/33 1/2 Working pressure by Rules 1000 lbs/sq. in.

ELECTRIC GENERATORS:—Type Open  
 Pressure of supply 225 volts. Load 2000 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. Level compounding 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 Shaffling No. retained for duplicate Receivers ✓ Separate Tanks ✓  
 (If not, state date of approval) 16-2-27

SPARE GEAR

As per attached List

The foregoing is a correct description,  
 for W. H. ALLEN SONS & COMPANY LIMITED

R. Smith.

Manufacturer.



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Dates of Survey while building { During progress of work in shops - April. 2-4-13. 19. 21. 24. 28. May 1. 9. 17. 22. 25. 29. 30 June 8. 13  
During erection on board vessel - - -  
Total No. of visits 16 partial = 6 full.

Dates of Examination of principal parts—Cylinders April 24. May 1. Covers April 13. May 1. 9. 17 Pistons May 30. June 13 Piston rods ✓

Connecting rods April 4. May 9. Crank and Flywheel shaft 9-5-28. Intermediate shaft ✓

Crank and Flywheel shaft, Material Steel Identification Mark *Eng. R.* *LLOYDS No 9167* *24-2-28* *Eng. B.* *LLOYDS No 9156* *16-2-28* Identification Marks

Is this machinery duplicate of a previous case Yes If so, state name of vessel "Inches of Ashall."

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

This machinery has been constructed under Special Survey in accordance with approved plans and Rule Requirements.

The workmanship & materials, so far as can be seen, are good and satisfactory bench trials have been carried out under survey.

The two sets which are numbered 82901/A/B have been despatched to Glasgow where they are to be installed on board and, in my opinion, will be eligible for inclusion in the Classification and record of T.M.C. of the vessel.

The amount of Fee ... £ 37-2-0 When applied for, 28 JUN 1928

Travelling Expenses (if any) £ 9-17-4 When received, 1.8.28

Committee's Minute

Assigned

*Arthur A. Palmer.*  
Surveyor to Lloyd's Register of Shipping.



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