

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 99176

15 SEP 1933

Date of writing Report 14<sup>th</sup> Septm 1933 When handed in at Local Office 15 SEP 1933 Port of London  
 No. in Survey held at Bedford Date, First Survey 9 May 1933 Last Survey 13<sup>th</sup> Septm 1933  
 Reg. Book. Suppl Number of Visits 15

41067 on the Single Twin Triple Quadruple Screw vessel "PORT CHALMERS"  
 Tons { Gross 8636  
 Net 5204

Built at Newcastle-on-Tyne By whom built Adam Hunter & Wigham Richardson Ltd. Yard No. 1483 When built 1933

Owners Commonwealth and Dominion Line Ltd. Port belonging to London

Oil Engines made at Bedford By whom made W. H. Allen & Sons Ltd. Contract No. K1/38235 When made 1933.

Generators made at Bedford By whom made W. H. Allen & Sons Ltd. Contract No. E1/38236 When made 1933.

No. of Sets 3 Engine Brake Horse Power \_\_\_\_\_ Nom. Horse Power as per Rule \_\_\_\_\_ Total Capacity of Generators 1125 Kilowatts.

IL ENGINES, &c.—Type of Engines (6 S 47) Aspirator injection Heavy oil 2 or 4 stroke cycle 4 Single or double acting Single  
 Maximum pressure in cylinders 650 lb/sq in Diameter of cylinders 350 mm Length of stroke 470 mm No. of cylinders 6 each eng. No. of cranks 6 each eng.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 420 mm Is there a bearing between each crank Yes

Revolutions per minute 350 Flywheel dia. 1800 mm Weight 8662 lb. Means of ignition Compression Kind of fuel used Heavy oil

Crank Shaft, dia. of journals as per Rule 210 mm Crank pin dia. 210 mm Crank Webs as per Rule 310 mm Thickness parallel to axis shrunk  
as fitted 210 mm as fitted 105 mm Thickness around eye hole shrunk

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 26 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 \_\_\_\_\_

Cooling Water Pumps, No. none on engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel \_\_\_\_\_

Lubricating Oil Pumps, No. and size 1. rotary gear pump for engine 20.5 gallon per minute

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

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

IR 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. none 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. 3 Total cubic capacity 42 cu ft Internal diameter 20 1/8" thickness 7/16"

Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength Special Certificate Working pressure by Rules 44' 300 lb/sq in  
C7076 of 27.6.33 attached hereto.

ELECTRIC GENERATORS:—Type Marine type—open

Pressure of supply 220 volts. Load each 1705 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 ✓

Are there 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 1 cylinder liner, 1 cylinder cover, 1 piston complete, 6 gudgeon pins, 3 fuel injection valves  
Complete 6 fuel valves, nozzles, 3 mild, 3 exhaust & 3 starting air valves complete, 8 main bearing bolts,  
2 connecting rod bolts, 1 set bottom half main bearing for one engine, 1 set top and bottom end bearings  
for one engine, 1 fuel pump complete & 3 delivery valves & seats, 1 lubricating oil pump complete for cylinder lubrication,  
1 length of chain (for chain drive) 48 piston rings and 12 scraper rings, 1 set studs for 1 cylinder cover.  
1 shunt coil, 1 series coil, 9 brush holders & brushes.

The foregoing is a correct description,

W. H. ALLEN, SONS & CO., LTD.,

Manufacturer.



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Lloyd's Register

005353-005353-0027



Dates of Survey while building { During progress of work in shops - - 1933. May 9, 16, 24, June 20, 22, 30, July 5, 12, 19, 25. Aug. 3, 19, 31, Sept. 5, 13 = 15 1/2 days.  
During erection on board vessel - - -  
Total No. of visits

Dates of Examination of principal parts—Cylinders 5/7/33, 19/7/33, 3/8/33 Covers 22/6/33 to 31/8/33 Pistons 22/6/33 to 31/8/33 Piston rods —

Connecting rods 5/7/33 to 3/8/33 Crank and Flywheel shafts 20/6/33 12/7/33 25/7/33 Intermediate shaft —

Crank and Flywheel shaft, Material *S.D. Steel*. Identification Mark *See below* Intermediate shafts, Material — Identification Marks —

Is this machinery duplicate of a previous case *No* If so, state name of vessel —

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

These three sets of auxiliary oil engines & then direct coupled electric generators have been built under Special Survey in accordance with the approved plans & the Rules. The materials used have been made at works approved by the Committee and tested by the Surveyors to this Society. They have satisfactorily withstood five hours full power, two hours overload, and governing tests in the shop and have now been dispatched to Newcastle for fitting onboard. They will merit in my opinion the notation of *Electric Light* in the Register Book when fitted onboard & tested as required by the Rules.

Attached hereto

*Engineering certificates. 4 in all.*

*Special certificate of approval of air receivers.*

*An Receiver Stamped*

C7068  
Lloyd's Test  
500 lb  
HP 300 lb  
22.6.38 H.M.C.

*Crank shafts stamped thus:-*

K1/38235/A  
753  
J.P. Lloyd  
9255  
11-5-33  
C7071 LON  
GAL 30/6/33

K1/38235/B  
Lloyd  
3170  
GA 28.6.33  
C7071 LON  
GAL 12.7.33

K1/38235/C  
Lloyd  
3234  
JFC 14.6.33  
C7071 LON  
GAL 25/7/33

These Engines have been satisfactorily installed in the vessel, Examined under working conditions and found satisfactory.

*H.B. Forster,  
Newcastle-on-Tyne,  
27<sup>th</sup> Decr. 1933.*

The amount of Fee ... £ 90: 12: 6

*2/ on 475 + 431 NHP.*

Travelling Expenses (if any) £ 6: 2: 9

When applied for,  
15 SEP 1933

When received, as the *180*  
*Letter LON/NHP*  
6 Oct 1933

*Geo. A. Lang*

*Surveyor to Lloyd's Register of Shipping.*

FRI. 5 JAN 1934

Committee's Minute

Assigned

*See UWC Rpt. 90866*



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Foundation