

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

of writing Report 18<sup>th</sup> March 1940 When handed in at Local Office 27 MAR 1940 Port of London Received at London Office 27 MAR 1940

in Survey held at Bedford. Date, First Survey 21<sup>st</sup> November 1939 Last Survey 11<sup>th</sup> March 1940

Book. Single on the Twin Triple Quadruple motor Screw vessel "PORT NAPIER" Tons { Gross 9847 Net 5906

built at Newcastle By whom built Swan Hunter & Wigham Richardson Yard No. 1569 When built 1940

owners Port Line Ltd Port belonging to London

Engines made at Bedford. By whom made W. H. Allen & Sons Ltd. Contract No. K/82009 When made 1940

Generators made at " By whom made " Contract No. " When made "

of Sets 3 Engine Brake Horse Power 550 Nom. Horse Power as per Rule 333 Total Capacity of Generators 375 Kilowatts.

**ENGINES, &c.**—Type of Engines Heavy Oil 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 650 lb Diameter of cylinders 350 Length of stroke 470 No. of cylinders 6 No. of cranks 6

Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 424 Is there a bearing between each crank yes

Revolutions per minute 350 Flywheel dia. 1800 Weight 8800 lbs Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 208 as fitted 210 Crank pin dia. 210 Crank Webs Mid. length breadth 310 Thickness parallel to axis " Mid. length thickness 105 Thickness around eyehole "

Crank Shaft, diameter as per Rule " as fitted " Intermediate Shafts, diameter as per Rule " as fitted " Thickness of cylinder liners 23

Is there a governor or other arrangement fitted to prevent racing of the engine when declutched 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. 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓

Lubricating Oil Pumps, No. and size one rotary on each engine

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

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

**RECEIVERS:**—Have they been made under Survey ✓ State No. of Report or Certificate ✓

Is each receiver, which can be isolated, fitted with a safety valve as per Rule ✓

Are 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 each ✓ Internal diameter ✓ thickness ✓

Is seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

Working Air Receivers, No. 3 Total cubic capacity 33.6 cu ft. Internal diameter 1-11 7/8" thickness 5/16"

Is seamless, lap welded or riveted longitudinal joint welded Material Steel Range of tensile strength 26/30 Working pressure by Rules 300 lb

**ELECTRIC GENERATORS:**—Type open type.

Pressure of supply 220 volts. Full Load Current 1710 Amperes. Direct or Alternating Current Direct

Is alternating current system, state the periodicity ✓ Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on and off yes

Are generators, are they compounded as per rule yes Is an adjustable regulating resistance fitted in series with each generator yes

Are the terminals 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

Do the generators are under 100 kw. full load rating, have the Makers supplied certificates of test ✓ and do the results comply with the requirements ✓

Do the generators are 100 kw. or over have they been built and tested under survey yes.

**PLANS.** Are approved plans forwarded herewith for Shafting 5.12.38. Receivers 24.4.39 Separate Tanks ✓

**ARE GEAR** 1 cylinder head, 1 cylinder liner, 1 piston complete with gudgeon pin  
 bottom end bolts, 8 main bearing studs & nuts, 48 piston & 12 scraper rings,  
 Fuel injectors, 3 exhaust valves with springs etc, 3 starting air valve assembly's  
 Fuel pumps, 3 Fuel pump delivery valves, 6 nozzles, 1 safety valve  
 main bearings, 2 thrust bearings, 6 top end trusses, 6 gudgeon pins &  
 bearings, 1 Lub. oil pump complete, 1 crankshaft drive chain, 6 Fuel  
 injection pipes. 1 Dynamo bearing, 1 set main field coils, 54 brushes,  
 9 brush holders. Valves, springs, joints, bolts & nuts etc.

The foregoing is a correct description.

W. H. ALLEN, SON & CO., LTD.,  
 Manufacturer.  
 W.H.A. 20/3/40

2500-11M

1940  
 Dates of Survey while building: During progress of work in shops - 1939. Nov 21-24 Dec 6-8 Jan 26-29 Feb 5-7 9-13 15-19 21-23  
 During erection on board vessel - - - - - bench 11"  
 Total No. of visits 15

Dates of Examination of principal parts - Cylinders 21.11.39 29.1.40 7.2.40 Covers 5.2.40 29.1.40 Pistons 5.2.40 Piston rods  
 Connecting rods 25.1.40 5.2.40 Crank and Flywheel shafts 15.2.40 6.12.39 8.12.39

Crank and Flywheel shafts, Material *Steel*  
 Identification Marks LLOYDS 753 T.B. 1031 22.5.38 HAG 6.12.39. 825 T.B. 77 609 7.4.38 JHM 8.12.39.  
 Intermediate shafts Identification Marks LLOYDS 849. T.B. HMK 1116 HAG 15.2.

Identification marks on Air Receivers 29.81.382. E 1653. LLOYDS 7437. 600 A.S. W.P. 300 23.11.39. HAG 7.2.40.  
 39.81.382. E 1654 LLOYDS TEST. A.S. 600 4 W.P. 300 23.11.39. HAG 7.2.40.  
 39.81.382 E 1655. LLOYDS TEST. A.S. 600 4 W.P. 300 27.11.39. HAG 7.2.40.

Is this machinery duplicate of a previous case  If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) The generator sets have been built under Special Survey in accordance with the requirements of the Rules and approved plans, the steel was made at Wooten approved by the Committee, the workmanship in good and on completion the generators were tested upon the bench under full and overload conditions with satisfactory results.

The generators have been dispatched to Newcastle for fitting on board the vessel.

These three Auxy Oil Engine Dynamo Sets or Units have been satisfactorily installed on the vessel, "Port Napier", Yard No 1569 built by S. Howk Newcastle in Type.

The machinery was tested under full load working conditions and found satisfactory.

The amount of Fee ... £ 50-8-0

Travelling Expenses (if any) £ 5-11-6

FRI. 12 JUL 1940

*M. J. Garratt*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned

See No. J.C. 98606



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Rpt. 13.

RE

Date of writing Report...  
 No. in Survey Reg. Book.

Built at *Newcas*  
 Owners *Port*

Electrical Installation  
 Is vessel fitted for

Have plans been submitted  
 Heating *22* Power

has the governing been  
 trip switch as per Rule.

if not compound wound  
 arranged to run in paral

*Positive*  
 test for machines under

of the generators as per

near unprotected combust  
 injury and damage from

contact *Yes* Swi  
 engine r

are they in accessible posi  
 and oil *Yes*, if sit

material is used for the p  
 semi-insulating material (

Is the construction as per  
 to pilot and earth lamps, v

side of switches *Yes*  
 circuit breaker

and time de  
 and for each outgoing circu

switches on  
 Are compartments containin

ammeters *3* voltm  
 equaliser connection *Yes*