

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 102849

Received at London Office 20 APR 1936

Reporting Office 20 APR 1936 When handed in at Local Office 20 APR 1936 Port of London

Survey held at Bedford Date, First Survey 5<sup>th</sup> Feb 1936 Last Survey 8. 4. 1936  
Number of Visits 10

on the <sup>Single</sup> ~~Triple~~ <sup>Motor</sup> Screw vessel "Clover"  
~~Triple~~  
~~Quadruple~~

Tons { Gross 35.2  
Net 16.6

Builder *Blundell* By whom built *Calidon Shipbuilding & Dry Dock Co Ltd* Yard No. 356 When built 1936  
*General Steam Navigation Co Ltd* Port belonging to *London*

Engines made at *Bedford* By whom made *W.H. Allen Sons & Co Ltd* Engine Contract No. *K1 56250* When made 1936  
Generators made at *Bedford* By whom made *W.H. Allen Sons & Co Ltd* GENERATOR Contract No. *165252* When made 1936  
*C & D 1824*

Sets 2 Engine Brake Horse Power 37.5 EACH Nom. Horse Power as per Rule 9.6 Total Capacity of Generators 24 Kilowatts.

ENGINES, &c.—Type of Engines *Vertical Injection* 2 or 4 stroke cycle 4 Single or double acting *Single*  
pressure in cylinders 700 Diameter of cylinders 145 7/8 Length of stroke 180 7/8 No. of cylinders 3 No. of cranks 3  
Bearings, adjacent to the Crank, measured from inner edge to inner edge 154 Is there a bearing between each crank *yes*

Revolutions per minute 750 Flywheel dia. 790 7/8 Weight 980 lbs Means of ignition *Compression* Kind of fuel used *Heavy oil*  
Crankshaft, dia. of journals as per Rule 80 7/8 Crank pin dia. 90 7/8 Crank Webs Mid. length breadth 135 7/8 Thickness parallel to axis  
as fitted 100 7/8 Mid. length thickness 36 7/8 shrunk Thickness around eye hole

Crankshaft, diameter as per Rule *Crank Shaft* Intermediate Shafts, diameter as per Rule Thickness of cylinder liners 8 7/8

Is there any other arrangement fitted to prevent racing of the engine when declutched *yes* Means of lubrication *faced* ✓  
Cylinders fitted with safety valves *no* Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *yes* ✓

Water Pumps, No. *One p 250 gal per hr* Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓

Oil Pumps, No. and size *One gear pump 194 gal per hour*

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

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes* ✓  
Internal surfaces of the receivers be examined *By removal of mountings yes* What means are provided for cleaning their inner surfaces *Removal of mountings*

Drain arrangement fitted at the lowest part of each receiver *yes* ✓  
Pressure Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓

Cap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓  
Air Receivers, No. 2 ✓ Total cubic capacity 5 1/2 cubic ft Internal diameter 9 7/8 ✓ thickness 5/16 ✓

Cap welded or riveted longitudinal joint *Stambers* Material *steel* Range of tensile strength 26/30 Working pressure by Rules 400 lbs WP 300 lbs

ELECTRIC GENERATORS:—Type *Encloused Ventilated Drip-proof*  
Voltage of supply 220 Volts. Load 109 Amperes. Direct or Alternating Current *Direct*

Is the current system, state frequency of periods per second ✓  
Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off *yes* ✓

Do they comply with the requirements regarding rating *yes* ✓ are they compound wound *yes* ✓  
Are they compounded 5 per cent. *yes* ✓, if not compound wound state distance between each generator. ✓

Is a variable regulating resistance fitted in series with each shunt field *yes* ✓ Are all terminals accessible, clearly marked, and furnished with sockets *yes* ✓  
Are the terminals spaced or shielded that they cannot be accidentally earthed, short circuited, or touched *yes* ✓ Are the lubricating arrangements of the generator as per Rule *yes* ✓

Are approved plans forwarded herewith for Shafting 24.8.33 ✓ Receivers *Barston Horwath standard type* Separate Tanks *none supplied*  
(If not, state date of approval) *size 0.0.*

GEAR  
Sets of valves for one cylinder together with springs & other fittings  
Fuel injector nozzles. Two sets piston rings for one cylinder.  
Sets studs & nuts for cylinder cover. Two gudgeon pins  
main bearing bolts & nuts. Four bottom end bolts & nuts  
fuel pumps  
brushes  
Four brush holders & two sets of brushes

The foregoing is a correct description,  
**W.H. ALLEN, SONS & CO., LD.**  
*W.H. Allen* Manufacturer.



Dates of Survey while building  
 { During progress of work in shops - - }  
 { During erection on board vessel - - - }  
 Total No. of visits

1936 Feb 5.12.20.25 Mar 3.4.12 64 APR. 8

Dates of Examination of principal parts—Cylinders 12.2.36 Covers 5.2.36  
 20.2.36 20.2.36 Pistons 3.3.36 Piston rods ✓

Connecting rods 20.2.36 Crank and Flywheel shaft 4.3.36 Intermediate shaft ✓

Crank and Flywheel shaft, Material Steel Identification Mark KI/56250C KI/56250D  
 6352 44070S  
 AE 6353  
 4.3.36 4.5.36 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.)

The engines of these generating sets have been constructed under special survey in accordance with approved plans and the Rule Requirements.

The materials made at works approved by the Society and tested in accordance with Rules. The workmanship is good. On completion the engines and generators mounted on common solihlators were run at full load and 10% over with satisfactory results.

The governors tested and found efficient. These generating sets are suitable in my opinion for service in a clamed vessel.

Certificates herewith.

- Two Engine crank shafts
- Two receivers
- Maker's certificates for general

These Engines & Generators have been efficiently fitted

*John Houston*

1m, 7, 26—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Fee ... £ 8 : 8 :  
 Travelling Expenses (if any) £ 1 : 5 :  
 When applied for, 20 APR 1936  
 When received, 6/6 19 36

*Alfred Fwing*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 9-JUN 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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