

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 104633

-8 JUL 1937

Date of writing Report 28 June 1937 When handed in at Local Office -8 JUL 1937 Port of London
 No. in Survey held at Bedford Date, First Survey 29 Dec 36 Last Survey 11 June 1937
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel 11 Tons Gross Net

Built at Barrow By whom built Vickers Armstrong & Co. Ltd. Yard No. 723 When built 1937
 Owners P. O. Ltd. Navigation Co. Ltd. Port belonging to
 Oil Engines made at Bedford By whom made W. H. Allen & Co. Ltd. Contract No. K/60404 When made 1937
 Generators made at Bedford By whom made W. H. Allen & Co. Ltd. Contract No. E/60405 When made 1937
 No. of Sets 1 Engine Brake Horse Power 165 Nom. Horse Power as per Rule 47 Total Capacity of Generators 110 Kilowatts.

OIL ENGINES, &c.—Type of Engines Heavy Oil Airless Injection 2 or 4 stroke cycle 4 Single or double acting single
 Maximum pressure in cylinders 650 Diameter of cylinders 200 Z Length of stroke 275 Z No. of cylinders 6 No. of cranks 6
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 214 Z Is there a bearing between each crank yes
 Revolutions per minute 600 Flywheel dia. 1130 Z Weight 1400 lb Means of ignition Compression Kind of fuel used Heavy Oil
 Crank Shaft, dia. of journals as per Rule 111 Z Crank pin dia. 130 Z Crank Webs 182 Z Mid. length breadth 50 Z Thickness parallel to axis shrunk
 as fitted 130 Z Mid. length thickness 50 Z Thickness around eyehole shrunk
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thickness of cylinder liners 14 Z
 as fitted Crank Shaft as fitted ✓
 Is 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 no Are the exhaust pipes and silencers water cooled or lagged with non-conducting material ✓
 Cooling Water Pumps, No. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓
 Lubricating Oil Pumps, No. and size one 9 galls per minute
 Air Compressors, No. ✓ No. of stages — Diameters — Stroke — Driven by —
 Scavenging Air Pumps, No. — 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 yes 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. — 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 12 cu ft Internal diameter 13 3/8 thickness 5/16
 Seamless, lap welded or riveted longitudinal joint D.R. LAP. Material Steel Range of tensile strength 26/20 lb Working pressure by Rules 360 lb
Actual 300 lb

ELECTRIC GENERATORS:—Type Open with Canopy
 Pressure of supply 220 volts. Full Load Current 500 Amperes. Direct or Alternating Current Direct
 If 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 ✓
 Generators, are they compounded as per rule yes 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
 If the generators are under 100 kw. full load rating, have the makers supplied certificates of test yes and do the results comply with the requirements yes
 If the generators are 100 kw. or over have they been built and tested under survey yes

PLANS. Are approved plans forwarded herewith for Shafting 23.11.31 Receivers 23.7.34 Separate Tanks 19.3.37
 (If not, state date of approval)

SPARE GEAR Complete set of valves and springs; 3 fuel injection nozzles; 1 set of rings for one piston; 1 set studs & nuts for one cylinder cover; 2 bottom end bolts; 2 main bearing bolts; one fuel pump; 1 gudgeon pin etc.

The foregoing is a correct description,

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

Manufacturer.

H. H. Clarke.

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Lloyd's Register
Foundation

010783-010790-0216

Dates of Survey while building { During progress of work in shops - - 1936 Dec 29 1937 March 12. 16. 25. April 6. 8. 12. 20. 28. May 10. 11. June 10. 11. Total No. of visits 12 (In shops)

Dates of Examination of principal parts—Cylinders 16. 3. 37 Covers 20. 4. 37 Pistons 28. 4. 37 Piston rods 12. 4. 37

Connecting rods 12. 4. 37 Crank and Flywheel shaft 29. 12. 36 Intermediate shaft -

Crank and Flywheel shafts, Material Steel Identification Mark 440705 7205 HAB 9. 11. 36 HAG 4. 2. 37

Intermediate shafts, Material ✓ Identification Marks -

Is this machinery duplicate of a previous case 70 If so, state name of vessel M.V. ORION.

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

This emergency electric generating set has been constructed under Special License in accordance with the requirements of the Rules & approved plans. The materials have been made at Works approved by the Committee & the workmanship is good. Full & 10% overload trials were carried out with satisfactory results.

The Generator has now been despatched to Barrow for fitting on board.

The amount of Fee ... £ 6- 6- 0: When applied for, - 8 JUL 1937 Travelling Expenses (if any) £ 2 2 6 When received, 7. 9. 1937

Committee's Minute FRI 18 MAR 1938

Assigned See Buo 2687

A. P. Garnett Surveyor to Lloyd's Register of Shipping.