

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 8662

8 JUL 1936

Date of writing Report 3-7-36 When handed in at Local Office 7.7.36 Port of MANCHESTER  
 No. in Survey held at MANCHESTER Date, First Survey 16.6.36 Last Survey 3.7-1936  
 Reg. Book. MANCHESTER Number of Visits 3

on the Single Screw vessel S.S. City of Benares Tons { Gross 11081  
Twin }  
Triple }  
Quadruple }

Built at BARCLAY CURLE & CO By whom built BARCLAY CURLE & CO Yard No. 656 When built 1936  
 Owners Ellerman Line Ltd. Port belonging to Glasgow

Oil Engines made at MANCHESTER By whom made L. GARDNER & SONS LTD ENGINE Contract No. 36113 When made 1936

Generators made at SUNDERLAND By whom made SUNDERLAND FORGE & ENGLA Contract No. F.4013 When made 1936

No. of Sets ONE Engine Brake Horse Power 57 Nom. Horse Power as per Rule 16.4 Total Capacity of Generators 35 Kilowatts.

OIL ENGINES, &c.—Type of Engines VERTICAL SOLID INJECTION 2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders 650 LBS Diameter of cylinders 4 1/4" Length of stroke 6" No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 5 3/16" Is there a bearing between each crank YES

Revolutions per minute 1000 Flywheel dia. 26" Weight 511 LBS Means of ignition COMPRESSION Kind of fuel used HEAVY OIL

Crank Shaft, dia. of journals as per Rule APPROVED as fitted 2 3/4" Crank pin dia. 2 5/8" Crank Webs Mid. length breadth 4" Thickness parallel to axis SOLID  
 Mid. length thickness 1 3/8" shrunk Thickness around eyehole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners .096"

Is a governor or other arrangement fitted to prevent racing of the engine when deatched 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 GEAR WHEEL TYPE ABOUT 120 GALLS/HOUR

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

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. 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. Total cubic capacity Internal diameter thickness

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

ELECTRIC GENERATORS:—Type

Pressure of supply 110 volts. Load 318 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. -, if not compound wound state distance between each generator -

is an adjustable regulating resistance fitted in series with each shunt field - Are all terminals accessible, clearly marked, and furnished with sockets -

are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched - Are the lubricating arrangements of the generators as per Rule YES

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

SPARE GEAR AS PER RULE REQUIREMENT

# RETAIN

The foregoing is a correct description,

**L. GARDNER & SONS LD.**

*William Gardner*

Manufacturer.

Director.



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Lloyd's Register

W367-0108 Foundation

Dates of Survey while building { During progress of work in shops - - } 16.30.36. 3.7.36.  
 { During erection on board vessel - - - }  
 Total No. of visits 3.

Dates of Examination of principal parts—Cylinders 16.6.36 Covers 16.6.36 Pistons 16.6.36 Piston rods —

Connecting rods 16.6.36 Crank and Flywheel shaft 16.6.36 Intermediate shaft —

Crank and Flywheel shafts, Material STEEL Identification Mark 16495 J.M.L. 22.5.36.

Intermediate shafts, Material — Identification Marks —

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.)

THIS ENGINE HAS BEEN BUILT UNDER SPECIAL SURVEY OF TESTED MATERIALS AND IS IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND RULE REQUIREMENTS. THE WORKMANSHIP AND MATERIALS ARE OF A GOOD QUALITY AND THE ENGINE WHEN TESTED IN SHOP UNDER FULL LOAD CONDITIONS SHEWED SATISFACTORY RESULTS. IN MY OPINION THE ENGINE IS SUITABLE TO BE PLACED ON BOARD A VESSEL CLASSED WITH THIS SOCIETY FOR THE PURPOSE INTENDED.

It has been especially <sup>secured</sup> in position on board Pop

1m.631—Transfer. (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ 4.4.0 <sup>When applied for,</sup> 7.7.36 ML  
 Travelling Expenses (if any) £ — <sup>When received,</sup> 19.8.36 ML

McIntyre  
 Surveyor to Lloyd's Register of Shipping.  
 TUE. 29 DEC 1936

Committee's Minute GLASGOW 20 OCT 1936  
 Assigned See Glasgow Report No. 57571