

Rpt. 4c.

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 72995

30 JUN 1948

Received at London Office.

Date of writing Report 22<sup>nd</sup> June 1948 When handed in at Local Office 19 Port of Glasgow.No. in Survey held at Glasgow Date, First Survey 14. 1. 48 Last Survey 30. 4. 1948  
Reg. Book. 36377 on the Single Screw vessel M.V. "OAKMORE" Number of Visits 5.Built at Borden. By whom built Horseshoe Works Borden, 466 West Yard No. 1 When built 1939  
Owners Johnston Warran (Juni. Ltd. (Lunar Works) Ltd.) Port belonging to London.  
Oil Engines made at Glasgow. By whom made British Polar Engines Ltd Contract No. 511400 When made 1948.  
Generators made at Chelmsford. By whom made Compton Parkerson Ltd Contract No. When made.

No. of Sets 1. Engine Brake Horse Power 230 M.N. as per Rule 57.5 Total Capacity of Generators 150 Kilowatts.

Is Set intended for essential services Emergency Supply.

OIL ENGINES, &amp;c.—Type of Engines Heavy oil K.S.H.E. 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 925 lb./sq. in. Diameter of cylinders 180 7/8 Length of stroke 300 7/8 No. of cylinders 4 No. of cranks 4

Mean indicated pressure 100 lb. Firing order in cylinders 1. 4. 2. 3. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 222 7/8

Is there a bearing between each crank? No Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 240 lb. in. sq. Revolutions per minute 600

Flywheel dia. 800 7/8 Weight 630 lb. Means of ignition Compression Kind of fuel used Diesel

Crank Shaft, dia. of journals as per Rule 113 7/8 Crank pin dia. 125 7/8 Crank Webs Mid. length breadth 230 7/8 Thickness parallel to axis 22 1/2  
as fitted 120 7/8 Mid. length thickness 56 7/8 Thickness round eye hole 1 1/2Flywheel Shaft, diameter as per Rule 113 7/8 Intermediate Shafts, diameter as per Rule 125 7/8 General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 268 lb. in. sq.

Are means provided to prevent racing of the engine when declutched? No Means of lubrication Hand Kind of damper if fitted none

Are the cylinders fitted with safety valves? No Are the exhaust pipes and silencers water cooled or lagged with non-conducting material? No

Cooling Water Pumps, No. One - 700 Gallons / Hour Is the sea suction provided with an efficient strainer which can be cleared within the vessel? Yes

Lubricating Oil Pumps, No. and size One - 900 Gallons / Hour

Air Compressors, No. 1 No. of stages 1 Diameters 1 Stroke 1 Driven by 1

Scavenging Air Pumps, No. Blower Diameter 1 Stroke 1 Driven by M.E.

AIR RECEIVERS:—Have they been made under Survey? None State No. of Report or Certificate 1

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? Yes

Is there a drain arrangement fitted at the lowest part of each receiver? Yes

High Pressure Air Receivers, No. 1 Cubic capacity of each 1 Internal diameter 1 thickness 1

Seamless, lap welded or riveted longitudinal joint 1 Material 1 Range of tensile strength 1 Working pressure by Rules 1

Starting Air Receivers, No. 1 Total cubic capacity 1 Internal diameter 1 thickness 1

Seamless, lap welded or riveted longitudinal joint 1 Material 1 Range of tensile strength 1 Working pressure by Rules 1

ELECTRIC GENERATORS:—Type 2000 R.P.M.

Pressure of supply 220 volts. Full Load Current 682 Amperes. Direct or Alternating Current Direct

If alternating current system, state the periodicity 1 Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown

on and off? No Generators, are they compounded as per Rule? Yes is an adjustable regulating resistance fitted in series with each shunt field? No

Are all terminals accessible, clearly marked, and furnished with sockets? No Are they so spaced

or shielded that they cannot be accidentally earthed, short circuited, or touched? No Are the lubricating arrangements of the generators as per Rule? No

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? No

Details of driven machinery other than generator 1

PLANS.—Are approved plans forwarded herewith for Shafting? Yes Receivers? Yes Separate Tanks? Yes

Have Torsional Vibration characteristics if applicable been approved? See letter 17/2/47 Serial 600 R.P.M. Armature shaft Drawing No. 1

SPARE GEAR as per attached list

BRITISH POLAR ENGINES LIMITED

The foregoing is a correct description,

J. M. Watson

Manufacturer.

(J. M. Watson)  
GENERAL MANAGER

"E" FACTORY

421st Div.

22/7/48



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Lloyd's Register  
Foundation

004466-004476-0363



Dates of Survey while building { During progress of work in shops - 14. 21. Jan. 13. 16. Feb. 30. Apr. 1948  
During erection on board vessel - - -  
Total No. of visits 5 visits

Dates of Examination of principal parts—Cylinders 14. 1. 48 Covers 21. 1. 48 Pistons 21. 1. 48 Piston rods 21. 1. 48

Connecting rods 21. 1. 48 Crank and Flywheel shafts 16. 2. 48 Intermediate shafts ✓

Crank shaft { Material O.H. Steel Tensile strength 36.0 Ton/0  
Elongation 30.0% on 3" Identification Marks 16905 H.A.I. 14.11.47. ✓

Flywheel shaft, Material ✓ Identification Marks ✓

Identification marks on Air Receivers now supplied.

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.) This auxiliary engine has been built under special Survey and in accordance with the Rules and approved the materials used and workmanship as good.  
On completion the engine coupled to the Generator was tested on the bench at the engine builders works at full and overload with satisfactory results.  
The engine and generator have now been dispatched to Messrs Russell & Co Liverpool to be installed on board the M.V. "Dakota".  
Torsional Vibration records attached for your information.

The amount of Fee ... £ 11 : 10 : 0 When applied for 29 JUN 1948

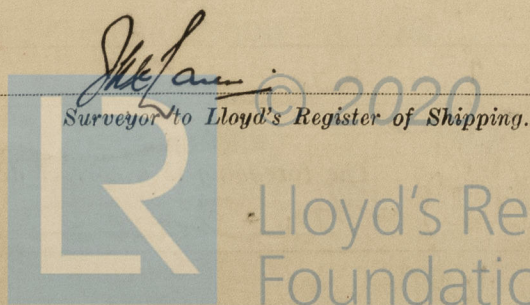
Travelling Expenses (if any) £ : : When received 19

Committee's Minute

Assigned

GLASGOW

29 JUN 1948



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