

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS

No. 15115.

20 MAY 1953

Received at London Office

14 AUG 1952

12th August, 1952

Port of MANCHESTER.

Writing Report 23rd July, 1952. When handed in at Local Office

Survey held at REDDISH, Nr. STOCKPORT. Date, First Survey 29th April, 1952. Last Survey 8th July, 1952. Number of Visits 5

on the Twin Screw vessel. CLASSED VESSEL, Rover. Tons Gross Net

Leith. By whom built Henry Robb & Co., Yard No. 416.E When built 1952.

Manchester Ship Canal Co. Ltd., Port belonging to Manchester. Engine No. 145555/6. Contract No. 17827. When made 1952.

Engines made of Reddish. By whom made Crossley Bros. Ltd., Generator Contract No. 47378. When made 1952.

ators made at Liverpool. By whom made Campbell & Isherwood Ltd., Total Capacity of Generators 26. Kilowatts.

Sets 1. Engine Brake Horse Power 42 x 2. M.N. as per Rule 8.4 x 2.

intended for essential services Yes.

ENGINES, &c.—Type of Engines Vertical Solid Injection Heavy Oil BW3. 2 or 4 stroke cycle 4. Single or double acting Single. 850 lbs/sq. inch. Diameter of cylinders 5. Length of stroke 6. No. of cylinders 3 x 2. No. of cranks 3 x 2.

indicated pressure 121 lbs/sq. inch. Firing order in cylinders 1, 3, 2. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 6.3 & 12.8. No. of bearings between each crank 1. Moment of inertia of flywheel (16 m² or Kg.-cm.²) 121,400. Revolutions per minute 1,000.

Wheel dia. 24. Weight 460 lbs. Means of ignition Compression. Kind of fuel used Diesel Oil.

as per Rule Approved. Shaft, dia. of journals 3. Crank pin dia. 3. Crank Webs 1.13/16. shrunk. Mid. length thickness 1.13/16. Thickness parallel to axis. Thickness round eye-hole.

Wheel Shaft, diameter as per Rule. Intermediate Shafts, diameter as per Rule. General armature, moment of inertia (16 m² or Kg.-cm.²)

Means provided to prevent racing of the engine when declutched Yes. Means of lubrication Forced. Kind of damper if fitted Watercooled.

Are the cylinders fitted with safety valves No. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material. One - 720 G.P.H. on each engine. Is the sea suction provided with an efficient strainer which can be cleared within the vessel.

ing Water Pumps, No. 1 - 150 G.P.H. on each engine. Indicating Oil Pumps, No. and size. Compressors, No. No. of stages. Diameters. Stroke. Driven by.

enging Air Pumps, No. Diameter. Stroke. Driven by. RECEIVERS:—Have they been made under Survey (not supplied by Engine Builders). State No. of Report or Certificate.

each receiver, which can be isolated, fitted with a safety valve as per Rule. What means are provided for cleaning their inner surfaces. The internal surfaces of the receivers be examined. Are there a drain arrangement fitted at the lowest part of each receiver.

Pressure Air Receivers, No. Cubic capacity of each. Internal diameter. thickness. Material. Range of tensile strength. Working pressure by Rules.

ing Air Receivers, No. Total cubic capacity. Internal diameter. thickness. Material. Range of tensile strength. Working pressure by Rules.

ELECTRIC GENERATORS:—Type Enclosed, Ventilated, Drip Proof, Compound Wound, Continuous Rating. Voltage of supply 110 volts. Full Load Current 236. Amperes. Direct or Alternating Current Direct.

rd No. 66. Alternating current system, state the periodicity. Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown.

and Required off Yes. Generators, are they compounded as per Rule. Yes. is an adjustable regulating resistance fitted in series with each shunt field. Yes. Are they so spaced.

full load all terminals accessible, clearly marked, and furnished with sockets. Yes. Are the lubricating arrangements of the generators as per Rule. Yes.

the Shafts shielded that they cannot be accidentally earthed, short circuited, or touched. Yes. Are the lubricating arrangements of the generators as per Rule. Yes.

nor be the generators are under 100 kw. full load rating, have the makers supplied certificates of test. and do the results comply with the requirements. See Liverpool Report 10 No. C.7806 attached.

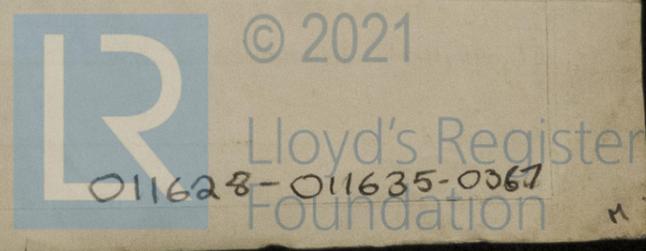
his effect the generators are 100 kw. or over have they been built and tested under survey. Are approved plans forwarded herewith for Shafting. 18.7.50. Receivers. Separate Tanks.

these enails of driven machinery other than generator. Torsional Vibration characteristics if applicable been approved. Not applicable. Armature shaft Drawing No.

ARE GEAR AS PER RULE REQUIREMENTS.

The foregoing is a correct description. CROSSLEY BROTHERS LIMITED

Manufacturer.



Dates of Survey while building
 During progress of work in shops - - 1952. April 29th, May 1st, 26th July, 7th and 8th.
 During erection on board vessel - - -
 Total No. of visits

Dates of Examination of principal parts - Cylinders 1.5.52. Covers 1.5.52. Pistons 1.5.52. Liners. 29.4.52.
 M.377 1.5.52. Piston rods 29.4.52.
 Connecting rods 1.2.52. Crank and Flywheel shafts 23.1.52. Intermediate shafts 25.5.52.
 1.2.52.

Crank shaft Material O.H. Steel Tensile strength 45.6 48.0
 Elongation 26% 27% Identification Marks Lloyd's J.4627 Lloyd's J.5333
 Flywheel shaft, Material 303 Identification Marks R.J.V. W.D. R.J.V. L.V.H.
 Identification marks on Air Receivers 23.1.52. 25.5.52.

Is this machinery duplicate of a previous case Yes If so, state name of vessel Henry Robb Yard No. 41YE

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These engines have been constructed under special survey of tested materials in accordance with the Secretary's letters approved plans and Requirements of the Rules. The materials and workmanship are good and on completion the combined set of two engines and a generator on a fabricated base was tested in the shop under full load conditions each engine running for 1/2 hours on full load followed by one hour on 10% overload coupled to the generator through friction clutches and showed satisfactory results. In our opinion this machinery is suitable for installation in a vessel to be classed by the Society for the purpose intended.

Attached hereto:- Liverpool Rpt. 10 No. G.7806 covering generator.
 Sheffield Rpt. 6 No. 54271 covering Crankshafts.
 " " " " 56042.

These engines have now been efficiently installed on board and tested under full working conditions with satisfactory results

The amount of Fee ... £ 10 : 0 : 0 When applied for 12/8/52
 Travelling Expenses (if any) £ 1 : 5 : 0 When received 19

Committee's Minute GLASGOW 19 MAY 1953

Assigned

SEE ACCOMPANYING MACHINERY REPORT

Surveyor to Lloyd's Register of Shipping
 For & on behalf of R.J. Yorston
 A.H. Duckworth

Thomas Donaldson

Lloyd's Register Foundation

Rpt. 13.
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 (The Surveyors are requested not to write over the space for Committee Minute.)