

RECEIVED

R.D.C. 4 FEB 1951

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 1438.

IN D.O.

28th November, 50.

29th January, 51.

Received at London Office

14 FEB 1951

Date of writing Report

When handed in at Local Office

Port of

MANCHESTER.

No. in Survey held at HAZEL GROVE, STOCKPORT. Date, First Survey 20.4.50. Last Survey 21.9.1950.
 Reg. Book. British Builder Number of Visits 17.
 on the Single Screw vessel. Classed Vessel (Yard No. 783). Tons Gross 8699
Triple Net 5048
Quadruple
 Built at Pallion: Sunderland. By whom built Wm. Doxford & Sons Ltd., Yard No. 182 When built 1951
 Owners British Tanker Co. Ltd., Port belonging to London.
 Oil Engines made at Hazel Grove. By whom made Mirrlees, Bickerton & Day Ltd., Engine No. 3231/7-8.
 Generators made at Sunderland. By whom made Sunderland Forge & Eng. Co., Generator No. 41195.
Two. Engine Brake Horse Power 135 x 2. M.N. as per Rule 34 x 2. Total Capacity of Generators 75 x 2. Kilowatts.
Total = 270. Total = 68. Total = 150 K.W.
 Is Set intended for essential services Yes.

OIL ENGINES, &c.—Type of Engines Mirrlees, T.L.3 Type, Heavy Oil. 2 or 4 stroke cycle 4. Single or double acting Single.
 Maximum pressure in cylinders 800 lbs/sq.inch. Diameter of cylinders 8.5". Length of stroke 13.75". No. of cylinders 3. No. of cranks 3.
 Mean indicated pressure 115 lbs/sq.inch. Firing order in cylinders 1, 3, 2. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 8.5".
 Is there a bearing between each crank Yes. Moment of inertia of flywheel 3500 lb ins sec². Revolutions per minute 500.

Flywheel dia. 4'-6". Weight 2,800 lbs. Means of ignition Compression. Kind of fuel used Diesel.
 As approved.

Crank Shaft, dia. of journals 5.3". Crank pin dia. 5.9/16". Mid. length breadth 9.1". Thickness parallel to axis shrunk
 as fitted. Crank Webs 2.15/32" Mid. length thickness shrunk Thickness round eyehole shrunk

Fitted to the end of the as per Rule. Flywheel Shaft diameter as fitted. Intermediate Shafts, diameter as per Rule. General armature, moment of inertia 249 lb ins sec².
as fitted. as fitted. as fitted.

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

Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes.
Safran: Centrifugal Type.

Cooling Water Pumps, No. One per Engine. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Ref. No. 4229; 4228.

Lubricating Oil Pumps, No. and size One per engine. Gear Type. Engine Driven. Capacity 666 G.P.H.

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

Scavenging Air Pumps, No. Diameter Stroke Driven by

AIR RECEIVERS:—Have they been made under Survey Yes. State No. of Report or Certificate C.12742.

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 Cleaning Doors.

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. One per 2 Engines Total cubic capacity 5 Cu. Ft. Internal diameter 17.1" thickness 3/8"

Seamless, lap welded or riveted longitudinal joint Welded. Material M.S. Range of tensile strength 26/30 Tons/sq.inch. Working pressure by Rules 350 lbs/sq.inch.

ELECTRIC GENERATORS:—Type Open Type, Ventilated, Drip-proof, Compound Wound.

Pressure of supply 110. volts. Full Load Current 682. Amperes. Direct or Alternating Current Direct.

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

on and off Yes. 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

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

the generators are under 100 kw. full load rating, have the makers supplied certificates of test Built and tested under survey.

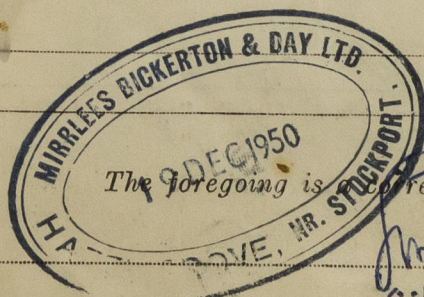
the generators are 100 kw. or over have they been built and tested under survey and do the results comply with the requirements

Generator Identification Marks: Lloyd's Test S.D.B. 1.9.50. Lloyd's Test S.D.B. 1.9.50.

PLANS.—Are approved plans forwarded herewith for Shafting Crankshaft 29.6.48. (Approved Standard Type)
 (If not, state date of approval) Receivers DL.31258/1 Separate Tanks -

Are Torsional Vibration characteristics if applicable been approved Yes: For 500 RPM 29.6.48. Armature shaft Drawing No. 43938.
 (state date of approval) Noted: 29.6.48.

ARE GEAR AS PER RULE REQUIREMENTS.



The foregoing is a correct description, and the particulars of the installation as fitted are as approved for Torsional Vibration Characteristics.
 Manufacturer.



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Dates of Survey while building { During progress of work in shops - - 1950. April 20. May 31. June 1, 13, 20, 23. July 5, 11, 26. Aug. 3, 4, 24. Sept. 1, 11, 18, 21.
 { During erection on board vessel - - -
 Total No. of visits. 20.4.50. 13.6.50. 18, 21/9/50. Exhaust 23.6.50.
 Dates of Examination of principal parts - Cylinders 5.26/7/50. Covers 24.8.50. Pistons 31.5.50. 11.7.50.
 Alignment 1.9.50. Casings. 3.4/8/50.
 Connecting rods 1.6.50. 11.9.50. Crank and flywheel shafts 20.6.50. 29.8.50. Intermediate shafts 3.4/8/50.
 Tensile strength 64.8 kgs per sq. mm.
 63.3 kgs per sq. mm.
 Crank shaft { Material Siemens Steel. Identification Marks L.R. 88747 Lloyd's HKS 3012/118.
 { Elongation on 50/56 mm. 29.2/26.6. 32.0, 29.0. Identification Marks L.R. 88773 Lloyd's HKS 3012/126.
 Flywheel shaft, Material Identification Marks L.R. 88773 Lloyd's HKS 13.6.50.
 Identification marks on Air Receivers J. & H. McLaren No. 8598. Lloyd's Test. W.P. 350 lbs. T.P. 700 lbs RMcL 24.5.

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.) These Diesel Engine Generator sets have been constructed under special survey of tested materials and in accordance with the Secretary's letter approved plans and Rule requirements. So far as could be seen, the material appears sound and free from defects. The workmanship is good.

Each engine, direct coupled to its respective Electric Generator, was tested at the Engine Builders' Works, and found satisfactory under the following conditions of loading:

6 Hours 100%. 1 Hour 110%.

Torsional vibration characteristics of the shafting installation of this auxiliary machinery have been examined and approved for a service speed of 500 R.P.M.

In the opinion of the undersigned, these Diesel Generator Sets are suitable for installation in a vessel classed with the Society for the purpose intended.

Attached hereto copies of Augsburg Forging Reports 101, 122 and Air Receiver Cert. C.12742. Generator Certificates will be forwarded later.

The amount of Fee ... £ 13 : 12 : 0. When applied for 12/2/51 19 21.
 Travelling Expenses (if any) £ 4 : 0 : 0. When received 19

Committee's Minute

FRI. 20 APR 1951

Assigned

See R.B. mealy. s.p.h.

Surveyor to Lloyd's Register of Shipping.



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