

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14473.

- 1 MAR 1951

Received at London Office 24 FEB 1951

Date of writing Report 28th November, 50. When handed in at Local Office 22nd February, 51. Port of MANCHESTER.

IN D.O.

No. in Survey held at HAZEL GROVE, STOCKPORT. Date, First Survey 20.7.50. Last Survey 24.11.19 50. Reg. Book.

on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel. **BRITISH CRAFTSMAN** Classed Vessel. (Yard No. 277). Number of Visits 10. Tons Gross 8694 Net 5008

Built at Pallion: Sunderland. By whom built Wm. Doxford & Sons Ltd., Yard No. 277. 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 Nos. 3231/11-12. Contract No. 3231. When made 1950.

Generators made at Sunderland. By whom made Sunderland Forge & Eng. Co. Generator 41501. Contract No. 41502. When made 1950.

No. of Sets 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. (12 Hr. rating). Total = 68. Total = 150 K.W.

OIL ENGINES, &c.—Type of Engines Mirrlees, TL.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 1/2". Length of stroke 13 3/4". 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 5/8".

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 2800 lbs. Means of ignition Compression. Kind of fuel used Diesel.

Crank Shaft, dia. of journals As approved. Crank pin dia. 5.9/16". Crank Webs Mid. length breadth 9 1/4". Thickness parallel to axis. Mid. length thickness 2.15/32". Thickness round eye hole.

Fitted to coupling end of Flywheel Shaft, diameter Intermediate Shafts, diameter General armature, moment of inertia 249 lb ins sec².

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.

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

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 G.11233.

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 vessel. Total cubic capacity 5 cu. ft. Internal diameter 1'-6". thickness 5/16".

Seamless, lap welded or riveted longitudinal joint Circumferentially Welded Material M.S. Range of tensile strength 26/30 Tons/sq.inch. Working pressure by Rules 395 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.

If 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

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 Built & Tested under survey. and do the results comply with the requirements.

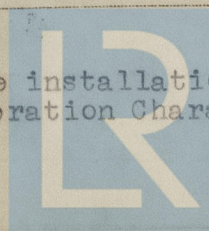
If the generators are 100 kw. or over have they been built and tested under survey.

Generator Identification Marks: Lloyd's Test S.D.B. 11.10.50. Lloyd's Test S.D.B. 11.10.50.

PLANS.—Are approved plans forwarded herewith for Shafting 29.6.48. Approved Standard Type Receivers Drg. No. 50-B68 Separate Tanks.

Have Torsional Vibration characteristics if applicable been approved Yes, for 500 RPM 29.6.48. Armature shaft Drawing No. 43938.

SPARE GEAR AS PER RULE REQUIREMENTS. Noted: 29.6.48.



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Dates of Survey while building { During progress of work in shops - - 1950. July 20. Sept. 27, 28. Oct. 16. Nov. 7, 9, 13, 14, 23, 24.
During erection on board vessel - - -
Total No. of visits - - -

Dates of Examination of principal parts - Cylinders 7.11.50. Covers 20.7.50: 28.9.50: 16.10.50. Pistons 23.24.11.50. Cylinder 9.11.50.
Liners Alignment 27.10.50. 15.11.50. Exhaust Casings.
Connecting rods 13.11.50. Crank and flywheel shafts 14.11.50.
Manifold
Crank shaft { Material S.M. Steel. Tensile strength 66.7 Kgs/sq.mm. 74.6 Kgs/sq.mm.
Elongation % on 50/56 mm. 27.2/25.6 L.R. 88701. Lloyd's HKS 3012/34.
26.6/24.8 Identification Marks HKS 11.8.50.
Oil Cooler Tested L.R. 88754. Lloyd's HKS 3012/128.
Flywheel shaft Material 27.9.50. 14.11.50. Crankshaft Identification Marks HKS 2.10.50.

Identification marks on Air Receivers 81/470781. Lloyd's Test. T.D.S. H.T. 790 lbs. W.P. 395 lbs. 17.7.50. H.930.
M.B.& D. 4906. W.P. 350 lbs. 24.11.50. W.J.I.

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 letters, approved plans and Rule Requirements. The material, as far as could be seen, 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 Hour 100%, 1 Hour 110%.

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

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

Attached hereto Augsburg Forging Reports Nos. 213 & 151, also Air Receiver Cert. No. C.11233. Generator Certificates will be forwarded later.

The amount of Fee ... £ 13 : 12 : 0. When applied for 22.2.57 19.24
Travelling Expenses (if any) £ 4 : 0 : 0. When received 19

TUES. 3 JUL 1951

Committee's Minute

Assigned

See F.E. Mchly. spk.

Surveyor to Lloyd's Register of Shipping.



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