

Rpt. 4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 15091.

Date of writing Report 14th March, 1952. When handed in at Local Office 25th July, 1952. Port of MANCHESTER. Received at London Office 30 JUL 1952

No. in Survey held at MANCHESTER. Date, First Survey 11.10.51. Last Survey 29.5.1952. Reg. Book. Number of Visits 15.

on the Single Screw vessel "Salkex Balutta". Tons Gross 8517. Net 4808.

Built at Sunderland By whom built Doxfords. Yard No. 789. When built 1951.

Owners Overseas Tankship Corporation. Port belonging to London.

Oil Engines made at Hazel Grove. By whom made Mirrlees, Bickerton & Day Ltd. Engine No. 34677. When made 1951.

Generators made at Liverpool. By whom made Campbell & Isherwood Ltd. Generator No. 47813. When made 1952.

No. of Sets Two. B.H.P. of each Set 260 (12 hrs). M.N. as per Rule 65.0 each. Capacity of each Generator 150 Kilowatts.

Is Set intended for essential services Yes.

OIL ENGINES, &c.—Type of Engines Two - TL.6 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". No. of cylinders 6. No. of cranks 6.

Mean indicated pressure 118 lbs/sq. inch. Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 8 5/8".

Is there a bearing between each crank Yes. Moment of inertia of flywheel (16 m² or Kg.-cm.²) 830 lbs ins sec². (per Cyl) 6.4. " " " " "Revolutions per minute 500.

Flywheel dia. 3'-6". Weight 1150 lbs. Means of ignition Compression. Kind of fuel used Diesel.

Crank Shaft, Solid forged dia. of journals as per Rule Approved. Crank pin dia. 5.9/16". Crank Webs Mid. length breadth 9 1/4". Thickness parallel to axis -.

Flywheel Shaft diameter as fitted. Generator armature, moment of inertia (10 m² or Kg.-cm.²) 511.0 lbs ins sec².

Are means provided to prevent racing of the engine 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. and how driven 1 - Safran type Geared Pump. Is the sea suction provided with an efficient strainer which can be cleared within the vessel -.

Lubricating Oil Pumps, No. and size One Engine gear type - 666 G.P.H.

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

Scavenging Air Pumps or Blowers, No. -. How driven -.

AIR RECEIVERS:—Have they been made under Survey Yes, one 5 cu.ft. per engine. State No. of Report or Certificate -.

State full details of safety devices Safety valve and fusible plug fitted on receiver.

Can the internal surfaces of the receivers be examined and cleaned yes.

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 -.

Starting Air Receivers, No. one per engine. Total cubic capacity 10 cu. ft.. Internal diameter 17 1/4". thickness 3/8".

Seamless, lap welded or riveted longitudinal joint lap welded. Material M.S.. Conforms to Class 2 Rule Requirements 350 lbs/sq. in.

ELECTRIC GENERATORS:—Type Campbell & Isherwood Ltd., 150 K.W., 500 r.p.m., drip proof, compound, continuous.

Pressure of supply 110 volts. Full Load Current 1362 Amperes. Direct or Alternating Current D.C.

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 -.

If the generators are under 100 kw. full load rating, have the makers supplied certificates of test - and do the results comply with the requirements -.

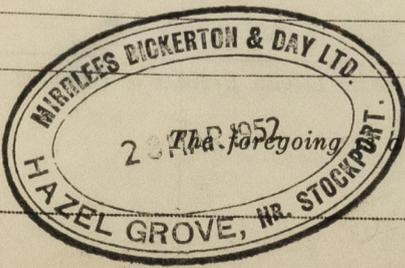
If the generators are 100 kw. or over have they been built and tested under survey Yes.

State full details of driven machinery other than generator -.

SHAFTS.—Are approved plans forwarded herewith for Shafting Approved 2.7.51. Receivers -. Separate Tanks -.

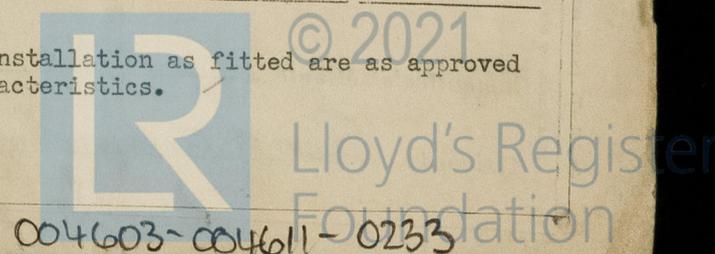
Have Torsional Vibration characteristics if applicable been approved Approved 2.7.51. Armature shaft Drawing No. A.13462.

Are the spare gear required by the Rules been supplied AS PER RULE REQUIREMENTS.



correct description, and the particulars of the installation as fitted are as approved for Torsional Vibration Characteristics.

Shawcross Manufacturer.



004603-004611-0233

Handwritten initials 'JM' and date '29/8/52'.

Dates of Survey while building: During progress of work in shops - - 1951. Oct. 11, 12, 17, 18, 22, 25, 29, Nov. 3, 8, 13, 14, 19. 1952. May 27, 28, 29.
 During erection on board vessel - - -
 Total No. of visits

Dates of Examination of principal parts: Cylinders 10.11.12/10/51 Covers 11, 12, 17, 18, 22, 25, 29/10/51. Pistons 27, 28/5/52. Piston rods -
 Connecting rods 3, 13/11/51. Crank and Flywheel shafts 27/9/51. 11/10/51. Intermediate shafts -

Crank shaft: Material S.M. Steel. Tensile strength 40.4 & 42.7 Tons/sq.inch.
 Identification Marks LR.3084/324 HKS 27.9.51.
 Elongation on 50 m/m. 29.4% & 25.2% Identification Marks LR.3084/321 HKS 11.10.51.

Flywheel shaft, Material - Identification Marks -
 Identification marks on Air Receivers -

Is this machinery duplicate of a previous case? Yes. If so, state name of vessel Doxford's Yard No. 788.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Diesel Generator Sets have been constructed in accordance with the Secretary's letters, approved plans and Rule requirements.

Special Survey of tested materials and in accordance with the Secretary's letters, approved plans and Rule requirements. As far as could be seen, the materials used in construction appear to be sound and free from defects. The workmanship is good. The engines, direct coupled to their respective generators, were tested at the Engine Builders' Works and found satisfactory under the following conditions of loading.

- 6 hours at 100% generator load at 500 r.p.m.
- 1 hour at 125% generator load at 500 r.p.m.

Torsional vibration characteristics of the shafting installation have been examined and approved for an engine speed of 500 r.p.m. In the opinion of the undersigned these units are suitable for installation in a vessel classed with the Society of Naval Architects and Marine Engineers.

It has been stated that they are intended for Doxford's Contract No. 789.

- Attached hereto:-
- Crankshaft Certs. Nos. 500 & 373.
 - Generator " " C.7980 & C.7981.
 - Air Receiver " " C.17506 & C.17624.

3m.51.-T. (MADE AND PRINTED IN ENGLAND)
 (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ 26 : 0 : 0. When applied for 25/7/52
 Travelling Expenses (if any) £ 4 : 10 : 0. When received 19

Committee's Minute
 Assigned *Sir E. E. Moly. rpt Slol 35918*

TUES. 9 DEC 1952

R. V. Hauser
 Surveyor to Lloyd's Register of Shipping.

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 Foundation