

Rpt. 4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14927.

Date of writing Report 28th February, 1952. When handed in at Local Office 17th March, 1952. Port of MANCHESTER. Received at London Office 25 MAR 1952

No. in Survey held at MANCHESTER. Date, First Survey 1.9.51. Last Survey 1.3.1952. Reg. Book.

Single on the Twin Triple Screw vessel. m/s "CAITEX DELHI". Number of Visits 14. Tons Gross 851 Net 488

Built at Sunderland By whom built Wm. Doxford & Co. Ltd., Yard No. 788. When built 1951

Owners Wm. Doxford & Co. Ltd. Overseas Tankship (UK) Ltd. Port belonging to London

Oil Engines made at Hazel Grove. By whom made Mirrlees, Bickerton & Day Ltd., Engine No. 34676. When made 1952.

Generators made at Liverpool. By whom made Campbell & Isherwood Ltd., Generator No. 47372. When made 1952.

No. of Sets Two. B.H.P. of each Set 260 (12 hrs) M.N. as per Rule 55.0 each. Capacity of each Generator 150. Kilowatts.

Is Set intended for essential services Yes. 52 each

OIL ENGINES, &c.—Type of Engines Two - T.L.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. 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 -

as fitted. 5 1/4". Mid. length thickness 2.15/32". Thickness round eye hole -

Flywheel Shaft diameter as per Rule. Generator armature, moment of inertia (16 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.

(other than main engines) Safety valve and fusible plug fitted on receiver.

State full details of safety devices

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 Material M.S. Conforms to Class 2 Rule Requirements for Range of tensile strength W.P.V. Working pressure 350 lbs/sq. inch.

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 Generators, are they compounded as per Rule is an adjustable regulating resistance fitted in series with each shunt field

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.

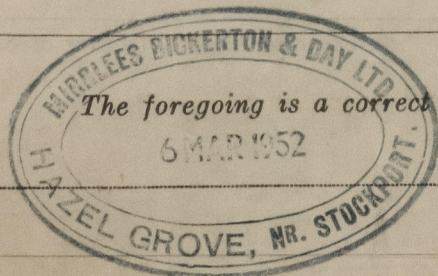
Details of driven machinery other than generator

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

(If not, state date of approval) Approved 2.7.51. Armature shaft Drawing No. A.13562.

Have Torsional Vibration characteristics if applicable been approved (State date of approval and name of previous duplicate case, if any) AS PER RULE REQUIREMENTS.

Has the spare gear required by the Rules been supplied



Manufacturer.



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Dates of Survey while building { During progress of work in shops - - Sept. 1, 27. Oct. 3, 5, 8, 10, 11, 12, 18. Nov. 8. Feb. 25, 26, 27. March 1.
During erection on board vessel - - -
Total No. of visits

Dates of Examination of principal parts { Cylinders 3, 11, 12/10/51. Covers 8, 11, 12, 18/10/51. Pistons 25, 26/2/52. Piston rods -
Connecting rods 10/10/51. 27/9/51. Intermediate shafts -
8/11/51. Crank and Flywheel shafts 1/9/51.

Crank shaft { Material S.M. Steel. Tensile strength 44.9 and 44.6 Tons/sq.inch.
Elongation 25.6 and 27.2% Identification Marks 3083/731/322 HKS. 1.9.51.
Identification Marks 3084/726/315 HKS 27.9.51.

Flywheel shaft, Material - Identification Marks -

Identification marks on Air Receivers 5/286 & 5/290.

Is this machinery duplicate of a previous case. Yes. If so, state name of vessel Doxford's Yard No. 787.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Diesel Generator Sets have been constructed under 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.

It has been stated that they are intended for Doxford's Contract No. 788.

Attached hereto:-

Crankshaft certs. Nos. 329 & 500.
Generator " " C.7797 & C.7794.
Air Receiver Certs. Nos. C.17757 & C.17761.

50% old fee - £13/ 0/0d.) £33/10/0d.
50% new fee - £20/10/0d.)

The amount of Fee ... £ 33 : 10 : 0 { When applied for 19. 3. 19 52
Travelling Expenses (if any) £ 4 : 10 : 0. { When received 19

Committee's Minute FRI. 26 SEP 1952

Assigned See F.E. mchly rpt Qld. 35873

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

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