

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14906.

12th February, 1952.

Received at London Office

3 MAR 1952

writing Report

When handed in at Local Office

26th February, 1952.

Port of

MANCHESTER.

Survey held at MANCHESTER.

Date, First Survey 28.9.51.

Last Survey

29.12. 1951.

Number of Visits 11.

Single  
on the  
Triple  
Screw vessel

"Balter Langajika"

Gross 8523  
Net 4809

Sunderland

By whom built Wm. Doxford &amp; Co. Ltd.,

Yard No. 787.

When built 1951

Wm. Doxford &amp; Co. Ltd.,

Overseas Tankships (UK) Ltd

Port belonging to

London

Lines made at Hazel Grove.

By whom made Mirrlees, Bickerton &amp; Day Ltd.,

Engine No. 34673

When made 1951.

Shops made at Liverpool.

By whom made Campbell &amp; Isherwood Ltd.,

Generator No. 47051

When made 1951.

Sets. Two. B.H.P. of each Set

260 (12 hr).

M.N. as per Rule 65.0 each.

Capacity of each Generator 150. Kilowatts.

Intended for essential services Yes.

ENGINES, &amp;c.—Type of Engines Two - TL.6 Heavy Oil.

2 or 4 stroke cycle 4. Single or double acting Single.

Mean 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.

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 a bearing between each crank Yes.

Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 830 lbs ins sec<sup>2</sup>

Shaft dia. 3 1/2"

Weight 1150 lbs.

Means of ignition Compression. Kind of fuel used Diesel.

Solid forged

Shaft, dia. of journals 5 3/4"

Crank pin dia. 5 9/16"

Crank Webs

Mid. length breadth 9 1/4"

Thickness parallel to axis

Mounted on Crankshaft.

Generator armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 511.0 lbs ins sec<sup>2</sup>

Means provided to prevent racing of the engine Yes.

Means of lubrication Forced.

Kind of damper if fitted

Cylinders fitted with safety valves Yes.

Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes.

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

1 - Engine Gear type - 666 g.p.h.

Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Suction Air Pumps or Blowers, No.

How driven

RECEIVERS:—Have they been made under Survey Yes - One 5 cu. ft. per engine.

State No. of Report or Certificate

Other than main engines)

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

Internal surfaces of the receivers be examined and cleaned Yes.

A drain arrangement fitted at the lowest part of each receiver Yes.

Pressure Air Receivers, No.

Cubic capacity of each

Internal diameter

Thickness

Is lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

Suction Air Receivers, No. One per engine

Total cubic capacity 10 cu. ft.

Internal diameter 17 1/4"

Thickness 3/8"

Is lap welded or riveted longitudinal joint

lap welded

Material M.S.

Range of tensile strength

Working pressure 350 lbs/sq. inch.

ELECTRIC GENERATORS:—Type

Campbell &amp; Isherwood Ltd., 150 K.W. 500 r.p.m. drip-proof, compound

continuous.

Voltage of supply 110 volts.

Full Load Current

1362

Amperes.

Direct or Alternating Current

D.C.

Alternating current system, state the periodicity

Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown

Generators, are they compounded as per Rule

is an adjustable regulating resistance fitted in series with each shunt field

Terminals accessible, clearly marked, and furnished with sockets Yes.

Are they so spaced

Is it deduced that they cannot be accidentally earthed, short circuited, or touched Yes.

Are the lubricating arrangements of the generators as per Rule

Generators are under 100 kw. full load rating, have the makers supplied certificates of test

and do the results comply with the requirements

Generators are 100 kw. or over have they been built and tested under survey Yes.

Is there any other driven machinery other than generator

Approved 2.7.51.

S.—Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Receivers

Separate Tanks

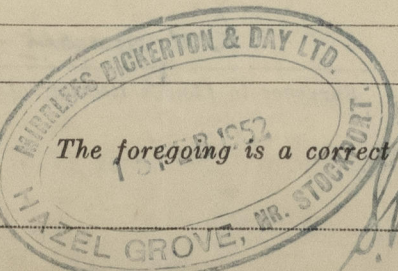
Torsional Vibration characteristics if applicable been approved

Approved 2.7.51.

Armature shaft Drawing No. A.13562.

(State date of approval and name of previous duplicate case, if any)

Is a spare gear required by the Rules been supplied 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 - - 1951. Sept. 7. Oct. 3, 4, 5, 7, 8, 10. Dec. 24, 27, 28, 29.  
During erection on board vessel - - -  
Total No. of visits

Dates of Examination of principal parts—Cylinders 7.9.51. 3, 4, 5, 10/51. Covers 3, 4, 5, 10/51. Pistons 24, 29/12/51. Piston rods -

Connecting rods 10.10.51. Crank and Flywheel shafts 24, 29/12.51. Intermediate shafts -

Material S.M. Steel. Tensile strength 44.7 Tons/sq.inch.  
Elongation on 50 mm. 26.2% 26.0% Identification Marks L.R. 3084/311 H.K.S. 1.9.5  
L.R. 3084/318 H.K.S. 1.9.5

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. 784.

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 Rules. 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 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 S. It has been stated that they are intended for Doxford's Contract No. 784. 181

Attached hereto:-

Crankshaft Certificates Nos. 329.

Generator Certificates Nos. C.7688, C.7689.

Air Receiver Certificates Nos. C.17306 & C.17309.

The amount of Fee ... £ 26 : 0 : 0. When applied for 22.2.52 19  
Travelling Expenses (if any) £ 4 : 10 : 0. When received 19

Committee's Minute

Assigned

See F.E. mchng rpt. Sld. 35815

R. V. Hauser.

Surveyor to Lloyd's Register of Shipping



Lloyd's Register Foundation