

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 428

Date of writing Report Feb. 18th 1931. When handed in at Local Office 19 Port of Sheffield Received at London Office 23 FEB 1931

No. in Survey held at Birmingham Date, First Survey 7/8/30 Last Survey 13th Feb 1931
Reg. Book. Single on the Quadruple Screw vessel S/S "British Energy" Number of Visits 422 Tons 422 Gross Net

Built at Greenock By whom built Greenock Dock Y^d Co. Yard No. 442 When built 1931

Owners British Tanker Co. Ltd. London Port belonging to

Oil Engines made at Birmingham By whom made Belliss & Morcom Contract No. 4359/61 When made 1931

Generators made at Manchester By whom made Metro Vickers Electrical Co. Ltd. Contract No. 5459/61 When made 1931

No. of Sets 2 Engine Brake Horse Power 100 Nom. Horse Power as per Rule 57 Total Capacity of Generators 65 EACH Kilowatts.

OIL ENGINES, &c.—Type of Engines Vertical Diesel Crude oil. N^o 475/64 477/8 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 550 Diameter of cylinders 12 $\frac{3}{4}$ " Length of stroke 16" No. of cylinders 2 No. of cranks 2

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 15 $\frac{3}{8}$ " Is there a bearing between each crank Yes

Revolutions per minute 300 Flywheel dia. 69" Weight 4.66 Tons Means of ignition Compression Kind of fuel used Heavy oil

Crank Shaft, dia. of journals as per Rule 6.85" Crank pin dia. 7 $\frac{1}{4}$ " Crank Webs Mid. length breadth 10 $\frac{1}{4}$ " Thickness parallel to axis Solid
as fitted 7.25" 7 $\frac{1}{4}$ " Mid. length thickness 3 $\frac{3}{4}$ " shrunk Thickness around eyehole Forged

Flywheel Shaft, diameter as per Rule 6.85 Intermediate Shafts, diameter as per Rule Thickness of cylinder liners 1 $\frac{1}{2}$ "
as fitted 7.75" as fitted

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced lubrication throughout by pressure pump

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material ✓

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

Lubricating Oil Pumps, No. and size One Integral with Engine

Air Compressors, No. One Integral with each engine No. of stages 3 Diameters 10 $\frac{3}{8}$ " 9 $\frac{1}{4}$ " 2 $\frac{5}{8}$ " Stroke 9 $\frac{1}{2}$ " Driven by Crank Shaft

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

AIR RECEIVERS:—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 doors top & bottom

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. One per engine Cubic capacity of each 3.1 cubic ft Internal diameter 9 $\frac{1}{4}$ " thickness $\frac{3}{8}$ "

Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 29/33 tons Working pressure by Rules 1027 LBS.

Starting Air Receivers, No. ✓ Total cubic capacity ✓ Internal diameter ✓ thickness ✓

Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

ELECTRIC GENERATORS:—Type Compound wound Multipole

Pressure of supply 110 volts. Load 65-K.W. Amperes. Direct or Alternating Current Direct

If alternating current system, state frequency of periods per second ✓

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding rating Yes are they compound wound Yes

are they over compounded $\frac{3}{2}$ per cent. Yes, if not compound wound state distance between each generator ✓

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

PLANS. Are approved plans forwarded herewith for Shafting Yes Receivers no Separate Tanks ✓
(If not, state date of approval)

SPARE GEAR As per Attached list—In accordance with the rules & in excess.

The foregoing is a correct description.
For Belliss & Morcom Limited.

F. O. EVERARD, Director.

Manufacturer.



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Dates of Survey while building { During progress of work in shops - - } 13/8/30. 25/8/30. 25/9/30. 16/10/30. 4/12/30. 18/12/30.
{ During erection on board vessel - - - }
Total No. of visits

Running Trials 4/2/31. 13/2/31.

Dates of Examination of principal parts—Cylinders 13/8/30. 16/10/30 Covers 13/8/30. 16/10/30 Pistons ✓ Piston rods ✓

Connecting rods 25/9/30 Crank and Flywheel shaft 7/8/30. 13/8/30. 24/9/30. 12/11/30. & 4/12/30. Intermediate shaft

Crank and Flywheel shafts, Material O. H. Steel Identification Mark 660/4035/12/11/30 RW7.
659/5880. 4/12/30. JP

Intermediate shafts, Material ✓ Identification Marks ✓

Is this machinery duplicate of a previous case No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The two 2. Cylinder Auxiliary Diesel Engines have been built under special survey in accordance with the Society's rules. The materials & workmanship are good. They have been run in the works under full power load tests with satisfactory results.

The Engines and their generators have been forwarded to Greenock.
To be fitted in the vessel at.

Enumeration: Engines now securely fitted on board

Wm Gordon. Machine
Greenock

Im. 28—Transfer.
(The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ 5 " : 14 " : When applied for, 19

Travelling Expenses (if any) £ 2 : 16 " : When received, 19

2. 4. 31

RW Fawcett.
Surveyor to Lloyd's Register of Shipping.



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Committee's Minute

Assigned