

Rpt. 4c.

MOB. RPT. No. 20310

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 15880

Date of writing Report 18th Mar. 1954

When handed in at Local Office 23rd Mar. 1954.

Received at London Office

29 MAR 1954

No. in Survey held at
Reg. Book.

Date, First Survey 9.7.53

Last Survey 17th Dec. 1953

Number of Visits 5

Single
on the Twin
Triple
Quadruple

Screw vessel

MELKA.

Tons Gross 20551
Net 12533

Built at Haverton Hill-on-Tees

By whom built The Furness Shipbuilding Co. Ltd. (462).

When built 1954.

Owners Gulf Oil Corporation.

Port belonging to MONROVIA.

Oil Engines made at Ashton-u-Lyne.

By whom made National Gas & O.E. Co. Ltd. Engine No. 90475

When made 1953

Generators made at Birmingham

By whom made General Electric Co. Ltd. Alternator

Generator No. ST14689/1 When made 1953

No. of Sets 1

B.H.P. of each Set 198

M.N. as per Rule 40

Capacity of each Generator 100

Kilowatts. 3.9

Is Set intended for essential services EMERGENCY SET.

OIL ENGINES, &c. Type of Engines Vertical, Solid Injection, Heavy Oil 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 950 PSI Diameter of cylinders 6" Length of stroke 8 1/2" No. of cylinders 8 No. of cranks 8

Mean indicated pressure 107 PSI Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 6 7/8"

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m² or Kg.-cm.²) 58,000 lbs in²

Flywheel dia. 27 1/2" Weight 402 lbs. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, Solid forged dia. of journals as per Rule approved with 2 1/2" hole offset Crank pin dia. 4.497" Crank Webs Mid. length breadth 7 1/2" Thickness parallel to axis

Flywheel Shaft, dia. as per Rule as fitted 5.3075" Crank pin dia. 4.497" Crank Webs Mid. length thickness 1 1/2" Thickness round eye-hole

Generator armature, moment of inertia (16 m² or Kg.-cm.²) 61,632 lbs in².

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 No. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

Cooling Water Pumps, No. and how driven One - Fresh water Centrifugal type, Bevel gear Driven, Integral with Engine, 3000 GPH.

Lubricating Oil Pumps, No. and size One - Gear type Integral with Engine - 625 GPH.

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 State No. of Report or Certificate

State full details of safety devices

Can the internal surfaces of the receivers be examined and cleaned

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

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. Total cubic capacity Internal diameter thickness

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

ELECTRIC GENERATORS: Type Drip proof screen protected type, Continuously rated, Revolving Field

Pressure of supply 450 volts. Full Load Current 160 Amperes. Direct or Alternating Current Alternating

If alternating current system, state the periodicity 3 phase 60 cycles. 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 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 13.2.53. Receivers Separate Tanks

Have Torsional Vibration characteristics if applicable been approved 24.3.53. Armature shaft Drawing No. M.28222

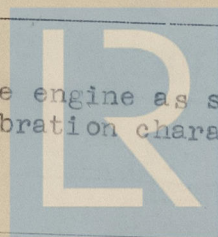
Has the spare gear required by the Rules been supplied As per Rule Requirements. M.27755

T.J. CASE No 271 H

The foregoing is a correct description,

and the particulars of the engine as supplied, are as approved for torsional vibration characteristics.

L. D. Eaton THE NATIONAL GAS AND OIL ENGINE CO. LTD. Manufacturer.



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014335-014348-0277

Dates of Survey while building { During progress of work in shops - - 1953. July 9, 14, 15, 20, Dec. 17.
During erection on board vessel - - -
Total No. of visits

Dates of Examination of principal parts—Cylinders 14.7.53. Covers 20.7.53. Pistons 17.12.53. Liners 9.7.53. Piston rods

Connecting rods 15.7.53. Crank and Flywheel shafts 15.4.53. Intermediate shafts

Crank shaft { Material O.H.Steel Tensile strength 70.2 KG/Sq. m.m.
Elongation 26% on 2" Identification Marks Lloyds N.443 15.4.53. DC.

Flywheel shaft, Material Identification Marks

Identification marks on Air Receivers.

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.) This engine has been built under special survey of tested materials in accordance with the Secretary's letters, approved plans and requirements of the Rules.

Materials and workmanship are good and the engine when tested in the shop under full load conditions coupled direct to its generator for 5 hours at 125% Generator load, $\frac{1}{2}$ hour at 75% load and $\frac{1}{2}$ hour at 50% load and showed satisfactory results.

In our opinion, this machinery is suitable for installation on board a vessel to be classed with this Society for the purpose intended.

Attached hereto: Copy of Naples Report 6 No. 980, covering the Crankshaft.

Copy of Birmingham Report 7b covering the Generator.

The amount of Fee ... £ 16 : - : -

When applied for 27/3/1954 (R.C.)

Travelling Expenses (if any) £ 1 : 10 : -

When received 19

TUESDAY 7 - DEC 1954

Committee's Minute

Assigned See Rpt. 4a

Surveyor to Lloyd's Register of Shipping.



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