

4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

EMERGENCY

No. 102539

of writing Report 8th 4/67 1936 When handed in at Local Office 10 FEB 1936 Received at London Office 10 FEB 1936
 in Survey held at Bedford Port of London
 Date, First Survey 24th October 1935 Last Survey 24 January 1936
 Number of Visits SEVEN

Single
on the Twin
Triple
Quadruple

Screw vessel

Tons { Gross
Net

Built at Barrow

By whom built Vickers Armstrongs Ltd. Yard No. 707 When built 1936

Port belonging to

Engines made at Bedford

By whom made W. H. Allen Sons & Co. Ltd. Contract No. K1/54422 When made 1936

Generators made at Bedford

By whom made W. H. Allen Sons & Co. Ltd. Contract No. E1/54422 When made 1936

No. of Sets 1. Engine Brake Horse Power 134.5 Nom. Horse Power as per Rule 38.4 Total Capacity of Generators 84 Kilowatts.

IL ENGINES, &c.—Type of Engines *Oil injection* (5527) 2 or 4 stroke cycle 4 Single or double acting *Single*

Maximum pressure in cylinders 650 lb. Diameter of cylinders 200 mm Length of stroke 275 mm No. of cylinders 5 No. of cranks 5

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 228 mm Is there a bearing between each crank Yes

Revolutions per minute 575 Flywheel dia. 1130 mm Weight 1520 lb. Means of ignition *Compression* Kind of fuel used *Heavy oil*

Crank Shaft, dia. of journals as per Rule 114 mm as fitted 130 mm Crank pin dia. 130 mm Crank Webs Mid. length breadth 182 mm Mid. length thickness 50 mm Thickness parallel to axis Thickness around eye hole

Flywheel Shaft, diameter as per Rule as fitted *Crank Shaft* Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 14 mm

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication *Oil*

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. *One (engine driven)* Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size *One. 6.3 gallons per minute.*

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

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

Can the internal surfaces of the receivers be examined What means are provided for cleaning their inner surfaces

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 by Rules

Starting Air Receivers, No. *Two* Total cubic capacity 8 cu. ft. Internal diameter 13 3/8" thickness 5/16"

Seamless, lap welded or riveted longitudinal joint *D.R. lap.* Material *Steel* Range of tensile strength 26/30 ton Working pressure by Rules *356 lb.* *Actual 300 lb.*

ELECTRIC GENERATORS:—Type *Open type with radiator*

Pressure of supply 220 volts. Load 382 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 5 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 5-12-32 Receivers 21.7.34 Separate Tanks

SPARE GEAR *One complete set of valves with springs for one cylinder. 3 injection nozzles*

1 set piston rings, 1 set studs for one cylinder cover, Two balls & nuts for main bearings and

crank pin bearings One fuel pump

One set carbon brushes, One set Crank Holder, One spare armature.

The foregoing is a correct description,

W. H. ALLEN, SONS & CO., LD.

Manufacturer.

Dates of Survey while building
 During progress of work in shops -
 During erection on board vessel -
 Total No. of visits

1935. Oct 24 Nov. 8. Dec. 9. 17. 19.

1936 Jan 13. 24

Dates of Examination of principal parts—Cylinders 9 and 17. 12. 35 Covers 9 and 17. 12. 35 Pistons 19. 12. 35 Piston rods —

Connecting rods. 17. 12. 35

Crank and Flywheel shaft 8. 11. 35

Intermediate shaft —

Crank and Flywheel shafts, Material

4. 9. Steel

Identification Mark

LLOYDS 6028
 MAB 30. 9. 35
 GAL 8. 11. 35

Intermediate shafts, Material

Identification Marks

Is this machinery duplicate of a previous case

If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. Workmanship good.

This heavy oil engine has been specially surveyed during construction and is in accordance with the approved plan of the Rules.

The materials used have been made at works approved by the Committee and tested by the Surveyor to the Society.

Full power, overload, governing & insulation tests on the ship were witnessed & found satisfactory. The engine being direct coupled to its generator for the tests.

It has now been dispatched to Barrow for fitting onboard.

Attached hereto

Enging certificate for crank shaft.

2 makers certificates for working & spare armatures

Copy of Special Certificate for an receiver.

The amount of Fee ... £ 6. 6. 0.

When applied for, 10 FEB 1936

Travelling Expenses (if any) £ 2. 18. 0

When received, 2nd Apr 1936

Geo. Laing & Co. Ewing.
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. 5 AUG 1936

Assigned

See Brw. J.C. 2619

LR-FAF-TBL4-249

Rpt. 13.

Date of writing

No. in Reg. Book

7/12/0

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