



REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14610.

5 JUL 1951

Received at London Office

MANCHESTER.

14 JUL 1951

Report made on 7th June, 1951. When handed in at Local Office 29th June, 1951. Port of

Survey held at MANCHESTER.

Date, First Survey 18th January, 51.

Last Survey 25th May, 19 51.

Number of Visits 11.

Single on the Twin Triple Quadruple Screw vessel **S.S. EVA PERON** Birkenhead.

Tons { Gross... Net...

Engine No. 1206. When built 1951.

By whom built Cammell Laird & Co.,

Port belonging to

Engines made at Ashton-U-Lyne.

By whom made National Gas & O.E. Co. Ltd. Engines 65636 65637 When made 1951.

Engines made at Sunderland.

By whom made Sunderland Forge & Eng. Co. Generator 42217 42218 When made 1951.

Engine Brake Horse Power 150 x 2 M.N. as per Rule 75. Total - 300.

Total Capacity of Generators 75 x 2 Kilowatts. Total - 150.

Intended for essential services Yes.

ENGINES, &c.—Type of Engines National R4A Heavy Oil. 2 or 4 stroke cycle 4. Single or double acting Single.

Working pressure in cylinders 850 lbs/sq. inch. Diameter of cylinders 9". Length of stroke 12". No. of cylinders 4. No. of cranks 4.

Indicated pressure 92 lbs/sq. inch. Firing order in cylinders 1.3.4.2. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 10 1/2".

Clearance between each crank Yes. Moment of inertia of flywheel (16 m² or Kg.-cm.²) 1,490,000 lb ins². Revolutions per minute 500.

Stroke dia. 4.3 1/2". Weight 3260 lbs. Means of ignition Compression. Kind of fuel used Diesel.

Shaft, dia. of journals as per Rule 6.622". Crank pin dia. 6.372". Crank Webs Mid. length breadth 7 3/4". Thickness parallel to axis -

as fitted. Mid. length thickness 2 3/4". Thickness round eyehole -

Intermediate Shafts, diameter as per Rule. General armature, moment of inertia (16 m² or Kg.-cm.²) 89,500 lb ins².

Means provided to prevent racing of the engine when declutched - 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 Watercooled.

Water Pumps, No. 1 - Cent. 2,500 G.P.H. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Driving Oil Pumps, No. and size 1 - Gear type. 850 G.P.H.

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

Driving Air Pumps, No. Diameter Stroke Driven by

RECEIVERS:—Have they been made under Survey Yes. State No. of Report or Certificate C.16007/8.

Receiver, which can be isolated, fitted with a safety valve as per Rule

Internal surfaces of the receivers be examined. What means are provided for cleaning their inner surfaces.

Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Material Range of tensile strength Working pressure by Rules

Air Receivers, No. 2. Total cubic capacity (11 cu.ft. x 2) Internal diameter 20" thickness 7/16".

Material M.S. Range of tensile strength 28/32 Working pressure by Rules 350 lbs/sq. in.

TRIC GENERATORS:—Type Open Type, Drip Proof, Compound Wound.

Voltage of supply 220. volts. Full Load Current 341. Amperes. Direct or Alternating Current Direct.

Operating current system, state the periodicity - Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown off Yes.

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

Terminals accessible, clearly marked, and furnished with sockets Yes. Are they so spaced

Provided that they cannot be accidentally earthed, short circuited, or touched Yes. Are the lubricating arrangements of the generators as per Rule Yes.

Generators are under 100 kw. full load rating, have the makers supplied certificates of test Yes. and do the results comply with the requirements Yes.

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

Other driven machinery other than generator

AS.—Are approved plans forwarded herewith for Shafting 27th July, 1949. Receivers 11.1.49. Separate Tanks -

Torsional Vibration characteristics if applicable been approved 27.7.49. Armature shaft Drawing No.

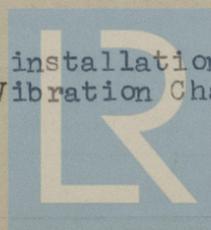
AS PER RULE REQUIREMENTS.

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for Torsional Vibration Characteristics.

[Signature]

Manufacturer.

THE NATIONAL GAS AND OIL ENGINE Co. Ltd.



Lloyd's Register Foundation

011099-011109-0203

Dates of Survey while building { During progress of work in shops - - 1951. Jan. 18, 22, 23, 29, 31. March 13, 28. April 19, 23, 24. May 25.
 During erection on board vessel - - -
 Total No. of visits

Dates of Examination of principal parts - Cylinders 23.1.51. Covers 23.1.51. Pistons 23.1.51. Liners 18.3.51.
 23.1.51. 19.4.51. 29.3.51. Piston rods 31.1.51.
 Connecting rods 23.1.51. Crank and Flywheel shafts 22.1.51. Intermediate shafts 29.3.51.

Crank shaft { Material O.H. Steel. Tensile strength 44.0, 44.0 Tons/sq. in.
 Elongation 25%, 26% Identification Marks Lloyd's G.A. 7248, Lloyd's G.A. 7229
 14.11.50 14.11.50.
 Flywheel shaft, Material Identification Marks

Identification marks on Air Receivers Lloyd's Nos. 316, 317 W.P. 350. T.P. 575. L.R.W. 30.10.50.

Is this machinery duplicate of a previous case. Yes. If so, state name of vessel. Cammell Laird Contract 1203. See Mch. Rpt. No. 6.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These engines have been constructed under the supervision of the Surveyor in accordance with the Secretary's letters and Rule Requirements. The materials and workmanship are good. The engines were found satisfactory when tested at the Builders' Works under the following conditions of loading and coupled direct to their electric generator:
 4 Hours at 100% Load.
 1/2 Hour at 120% Load.
 1/2 Hour at 110% Load.

Torsional vibration characteristics have been approved for a service speed of 500 R.P.M. The diesel generator sets are, in my opinion, suitable to be installed in a vessel classed by the Society for the purpose intended.

Attached hereto Mch. Rpt. 6 No. F.6725, Air Receiver Certs. C.16007/8, Serck Radiators Certs. C.9566 & C.9573 and Generator Test Certs.

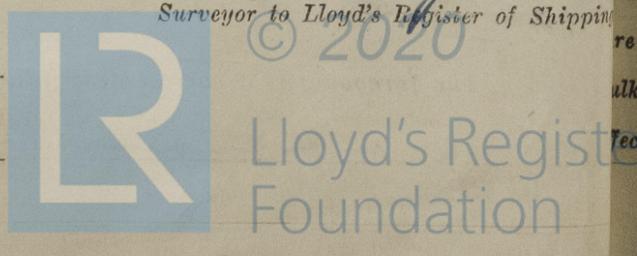
These generator sets have been properly installed in the vessel and tried under full working conditions with satisfactory results.

G. H. Kersey
 Liverpool 4.4.52

The amount of Fee ... £ 15 : 0 : 0. When applied for 19
 Travelling Expenses (if any) £ 1 : 18 : 6. When received 19

Committee's Minute
 Assigned

G. H. Kersey
 Surveyor to Lloyd's Register of Shipping



2013-10-17 T. SWADE AND PRINTED IN ENGLAND
 (The Surveyors are requested not to write on or below the space for Committee Minute.)