

pt, 4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 79436

13 MAY 1954

Received at London Office

20 OCT 1952

Date of writing Report 21-10-1952 When handed in at Local Office 23-10-1952 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 14th Nov. 1951 Last Survey 8th Oct. 1952

Single on the Twin Triple Quadruple Screw vessel Pacific Star Tons Gross 11217.88 Net 6328.49

built at Port Glasgow By whom built Messrs W. Hamilton & Co Ltd Yard No. 492 When built 1952

owners Silver Line Ltd Port belonging to London

Oil Engines made at Govan, Glasgow By whom made Messrs British Polar Engines Ltd ENGINE Contract No. PV.169-70 When made 1952

Generators made at Sunderland By whom made Messrs Sunderland Forge & Eng Co Ltd GEN Contract No. 45701-2 When made 1952

No. of Sets TWO Engine Brake Horse Power 225 X 2 M.N. as per Rule 45 X 2 Total Capacity of Generators 300 Kilowatts.

Set intended for essential services. YES

OIL ENGINES, &c.—Type of Engines Heavy Oil Engine H.S.L.E. Type 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 925 lbs/sq. in. Diameter of cylinders 180 mm Length of stroke 300 mm No. of cylinders 4 No. of cranks 4

Mean indicated pressure 98.6 lbs/sq. in. Firing order in cylinders 1-3-2-4 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 222 mm

Is there a bearing between each crank YES Moment of inertia of flywheel (16 m² or Kg.-cm.²) 240 lb in sec² Revolutions per minute 600

Flywheel dia. 800 mm Weight 635 lbs Means of ignition COMP. Kind of fuel used S.M.D.

Crank Shaft, dia. of journals as per Rule App. as fitted 125 mm Crank pin dia. 120 mm Crank Webs Mid. length breadth 230 mm Thickness parallel to axis shrunk Mid. length thickness 56 mm Thickness round eye-hole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m² or Kg.-cm.²)

Are means provided to prevent racing of the engine when declutched YES Means of lubrication FORCED Kind of damper if fitted

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

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

Lubricating Oil Pumps, No. and size ONE 1500 GALL. PER HOUR

Air Compressors, No. NONE No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. BLOWER Diameter Stroke Driven by MAIN ENG.

AIR RECEIVERS:—Have they been made under Survey State No. of Report or Certificate

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

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. NONE 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 Sunderland Forge Compound wound, continuous rating.

Pressure of supply 110 volts Full Load Current 1364 Amperes Direct or Alternating Current DIRECT.

If alternating current system, state the periodicity 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

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. Lloyd's TEST 9-8-52 S.D.B., 19-8-52 S.D.B.

Details of driven machinery other than generator

PLANS.—Are approved plans forwarded herewith for Shafting 18th Oct. 1951 Receivers Separate Tanks

Have Torsional Vibration characteristics if applicable been approved YES 18th Oct. 1951 Armature shaft Drawing No. 46345

SPARE GEAR As per Rule requirements.

The foregoing is a correct description,

Shawn S. Barber for BPE Ltd Manufacturer.



012541-012547-0271

Dates of Survey while building: During progress of work in shops - - 1951. Nov. 14th to 27th Dec 3rd to 26th. 1952. Jan 16. Feb 8th to 20th Sept 24th Oct 3rd to 8th
 During erection on board vessel - - -
 Total No. of visits EN 6 16

Dates of Examination of principal parts - Cylinders. 14-11-51, 16-11-51, 26-11-51. Covers. 7-12-51, 15-2-52, 18-2-52. Pistons. 21-11-51, 27-11-51, 30-2-52. Piston rods. ✓
 Connecting rods. 16-7-48. Crank and Flywheel shafts. 1-10-51, 28-12-50. Intermediate shafts. ✓

Crank shaft: Material O.H. STEEL. Tensile strength 32.0, 35.6 Tons/29 in.
 Elongation 32% 29% on 2". Identification Marks 2019 185. 7371 G.H.K.

Flywheel shaft, Material ✓. Identification Marks ✓

Identification marks on Air Receivers. ✓

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.) These engines have been built under Special Survey in accordance with the Secretary's letters and approved plans. The materials and workmanship are good and on completion the engines were tried on the test bed at the makers works with satisfactory results. They have now been despatched to Messrs W^m Hamilton & Co Ltd, to be fitted to their yard N^o 492 and are eligible in my opinion for the record of L.M.C. (with date) when efficiently installed on board. The torsional vibration characteristics have been approved for a service speed of 600 R.P.M.

23/10/52
 RSJ
 Fee charged 50% Old fee & 50% New fee.
 The amount of Fee ... £ 28 : 15 : 0
 Travelling Expenses (if any) £ : :
 Committee's Minute
 Assigned Defered for completion

28 OCT 1952

A. G. Smith.

Surveyor to Lloyd's Register of Shipping.

GLASGOW 28 OCT 1952



5th. 1. 18. - T. (MADE AND PRINTED IN ENGLAND)
 (The Surveyors are requested not to write on or below the space for Committee Minute.)