

Rpt. 4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 1000

Date of writing Report 25th May 1953 When handed in at Local Office JUN. 1. 1953 Received at London Office 29 JUN 1953
 Port of Yokohama
 No. in Survey held at Shimizu Japan Date, First Survey 8-7-1952 Last Survey 21-5-1953
 Reg. Book. Number of Visits 17

Single on the Twin Triple Quadruple Screw vessel S.S. "LEONIDAS"
 Built at Shimizu Japan By whom built The Nippon Steel Tube Co., LTD. Shimizu Shipyard Yard No. 151 When built 5-53
 Owners: Port belonging to

Oil Engines made at Shimizu Japan By whom made Ito Engineering Co., LTD. Contract No. 4060 When made 11-52
 Generators made at Tokyo Japan By whom made Meidensha Electric Mfg. Co., LTD. Contract No. 361308 When made 10-52
 No. of Sets 1 Engine Brake Horse Power 100 M.N. as per Rule 20 Total Capacity of Generators 80 KVA Kilowatts
 Is Set intended for essential services

OIL ENGINES, &c.—Type of Engines A-184B 4SCSA Solid Injection Trunk piston 2 or 4 stroke cycle 4 Single or double acting single
 Maximum pressure in cylinders 55 kg/cm² Diameter of cylinders 185 mm Length of stroke 260 mm No. of cylinders 4 No. of cranks 4
 Mean indicated pressure 6.46 kg/cm² Firing order in cylinders 1-3-4-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 230 mm
 Is there a bearing between each crank yes Moment of inertia of flywheel ($\pm 6 \text{ m}^2 \text{ or Kg.-cm.}^2$) 6 x 10⁵ Revolutions per minute 600
 Flywheel dia 866 mm Weight 453 kg. Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 96.62 mm as fitted 120 Crank pin dia 110 mm Crank Webs Mid. length breadth 160 mm shrunk Thickness parallel to axis -
 Mid. length thickness 60 " Thickness round eyehole -
 Flywheel Shaft, diameter as per Rule - as fitted - Intermediate Shafts, diameter as per Rule - as fitted - General armature, moment of inertia ($\pm 6 \text{ m}^2 \text{ or Kg.-cm.}^2$) 3 x 10⁵

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 water cooled

Cooling Water Pumps, No. 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes
 Lubricating Oil Pumps, No. and size 1 Gear Pump M.4 P.C. 48 mm Bore dia 44 mm RPM 600

Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -
 Scavenging Air Pumps, No. - Diameter - Stroke - Driven by -

AIR RECEIVERS:—Have they been made under Survey yes State No. of Report or Certificate YAR-11 A4B
 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 hand hole
 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. 2 Total cubic capacity 125 L. each Internal diameter 338 mm thickness end pl. 11 mm shell pl. 13 mm bottom 15 mm
 Seamless, lap welded or riveted longitudinal joint Riveted Material O.H. steel Range of tensile strength end. pl. 46.5 kg/mm² Working pressure by Rules -

ELECTRIC GENERATORS:—Type Drip proof, self ventilated 3 phase synchronous generator
 Pressure of supply 230 volts. Full Load Current 200 Amperes. Direct or Alternating Current AC
 If alternating current system, state the periodicity 60 cycle 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 - 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 so that they cannot be accidentally earthed, short circuited, or touched yes Are the lubricating arrangements of the generators as per Rule yes
 and that the max. kv. full load rating, have the makers supplied certificates of test yes and do the results comply with the requirements yes
 the generators are under 100 kv. yes they been built and tested under survey -
 If the generators are 100 kv. or over have

Details of driven machinery other than generator -
PLANS.—Are approved plans forwarded herewith for Shafting 1-12-52 (LONDON) Receivers 10-12-52 (KOBE) Separate Tanks 4-11-52
 (If not, state date of approval)
 Have Torsional Vibration characteristics if applicable been approved 1-12-52 (LONDON) Armature shaft Drawing No. Z 4515
 (state date of approval)

SPARE GEAR 1-piston, 1 cyl.-piston rings, 1-piston pin bearing, 1-crank pin bearing,
1st-main bearing (each size), 1-cylinder cover, 1-suction valve, 3-Exhaust valves, 1-Starting air valve,
2-Fuel oil valves, 2-Fuel valve nozzle tips, 1-Cylinder relief valve, 1 set-Moving parts of fuel pump,
3-Fuel injection pipes with union joint. etc

The foregoing is a correct description,
S. Shiratori Manufacturer.
Ito, Engineering Co. LTD.



Dates of Survey while building: During progress of work in shops-- } 1952: JUL. 8. AUG. 6. 16. SEPT. 8. 19. OCT. 24. 30. NOV. 11. 24. 25. DEC. 3
 During erection on board vessel-- } 1953: FEB. 17. MAR. 24. APR. 8. 27. MAY 8. 21
 Total No. of visits 17

Dates of Examination of principal parts—Cylinders 8-7-52 Covers 11-11-52 Pistons 25-11-52 Piston rods —
 Connecting rods 25-11-52 Crank and Flywheel shafts 22-7-52 (K&BE) Intermediate shafts —
 Crank shaft: Material Electric furnace steel. Forged steel Tensile strength 34.7 T₀"
 Elongation 31% Identification Marks No. MD-CK III KT LR 22-7-52
 Flywheel shaft, Material — Identification Marks —

Identification marks on Air Receivers
 NO. YAR-11A 4 11B
 LLOYD'S TEST
 45 KG
 WP 30 KG
 HT 29-12-52

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 Electric Generator set has been constructed under Special Survey in accordance with the Rules, Approved plans and Secretary's letters.

The materials and workmanship are good.
 The Electric Generator set has been examined under working condition in the shop and found satisfactory.
 The Electric Generator set has been satisfactorily installed in the vessel and tested under working condition.
 It is submitted that the generator set is eligible to be classed with this Society with notation of + LMC 5.53

Working plan
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(The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee... £20,000.00 during construction
 Travelling Expenses (if any) £ See Rpt. 4 & Installation fees
 When applied for 19-6-53, 19
 When received 19

[Signature]
 Surveyor to Lloyd's Register of Shipping.

FRIDAY 24 JUL 1953

Assigned See F.E. mchly. rpt.