

pt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 2369

Received at London Office 113 DEC 1954

Date of writing Report 19... When handed in at Local Office NOV. 26 1954 19... Port of K O B E

No. in Survey held at Tamano, Japan Date, First Survey 10th Nov., 1954 Last Survey 3rd July, 1954  
eg. Book. Number of Visits 38

90185 Single Screw vessel m.v. "HOEISAN MARU" Tons { Gross 6952.52 Net 3854.60

Built at Tamano, Japan By whom built Mitsui Shipbldg. & Engr. Co., Ltd. Yard No. 581 When built July 1954

Owners Mitsui Steamship Co., Ltd. Port belonging to Tokyo

Oil Engines made at Tamano, Japan By whom made Mitsui S.B. & E. Co., Ltd. Engine No. 521, 522, 523 When made July 1954

Generators made at Tokyo, Japan By whom made Shibaura Electric Co., Ltd. Generator No. 5355234, 5355235, 5355236 When made July 1954

No. of Sets 3 B.H.P. of each Set 350 M.N. of each Set as per Rule 70 Capacity of each Generator 230 Kilowatts

Is Set intended for essential services Yes

OIL ENGINES, &c.—Type of Engines Mitsui-B&W DE 725-MTH-40 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 55 kg/cm<sup>2</sup> Diameter of cylinders 245 mm Length of stroke 400 mm No. of cylinders 7 No. of cranks 7

Mean indicated pressure 7.5 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 315 mm

Is there a bearing between each crank Yes Moment of inertia of flywheel 4,748,000 Kg.-cm.<sup>2</sup> Revolutions per minute 425

Flywheel dia. 1350 mm Weight 2730 kg Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, { Semi-built dia. of journals as per Rule 154.42 mm Crank pin dia 170 mm Crank Webs Mid. length breadth 290 mm Thickness parallel to axis 90 mm

as fitted 170 mm Mid. length thickness 90 mm Thickness round eye hole 82.5 mm

Flywheel Shaft, diameter as per Rule — Generator armature, moment of inertia 1,674,330 Kg.-cm.<sup>2</sup>

as fitted —

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 Yes Are the exhaust pipes and silencers lagged with non-conducting material Yes

Cooling Water Pumps, No. and how driven 2; Elec. motor 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 per each engine. Particulars of gear: No. of teeth: 15, r.p.m. 425

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 Yes State No. of Report or Certificate AR-19494

(other than main engines) State full details of safety devices One spring loaded safety valve

Can the internal surfaces of the receivers be examined and cleaned Yes

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 —

Starting Air Receivers, No. 1 Total cubic capacity 0.1 m<sup>3</sup> Internal diameter 420 mm thickness 11 mm

Seamless, lap welded or riveted longitudinal joint Welded Material O.H. Steel Range of tensile strength 46.6-52.8 kg/mm<sup>2</sup> Working pressure 25 kg/cm<sup>2</sup>

ELECTRIC GENERATORS:—Type D.C. compound winding self-ventilated drip-proof open type

Pressure of supply 225 volts. Full Load Current 1040 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 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 None

PLANS:—Are approved plans forwarded herewith for Shafting 19-12-53 Kobe Receivers 10-8-53 Separate Tanks 8-10-53

(If not, state date of approval) Have Torsional Vibration characteristics if applicable been approved 2-3-54 Kobe Armature shaft Drawing No. 3D-3213

(State date of approval and name of previous duplicate case, if any) Has the spare gear required by the Rules been supplied 11-exhaust valves, 7-air inlet valves, 2-starting air valves,

10- fuel valves, 2-relief valves, 7 sets - piston rings, 2-crank pin bearings, 3-gudgeon pin bushes,

3 sets - fuel oil pumps, 21 sets - fuel pipes, 1-cylinder, 2-pistons, 3-indicator valves, 1 set -

main bearing.

The foregoing is a correct description,

Manufacturer.

MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.

S. Tanaka Senior Managing Director.

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011449-011460-0030



Dates of Survey while building { During progress of work in shops - } 1953 Nov. 10, 13, 17, 27, Dec. 8, 26.  
 { During erection on board vessel - } 1954 Jan. 6, 12, 19, 26, 29, Feb. 2, 5, 16, 19, 23, 26, Mar. 2, 5, 12, 19, 23, 26, 30, Apr. 2, 9, 13.  
 { 1954 May 4, 7, 11, 25, Jun. 11, 29.  
 { 1954 June 29, July 3.  
 Total No. of visits 38

Dates of Examination of principal parts—Cylinders 20-4-54 Covers — Pistons 26-3-54 Piston rods —  
 Connecting rods 27-4-54 Crank ~~and flywheel shafts~~ 5-3-54 23-3-54 Intermediate shafts —  
 Journal: Open hearth steel  
 (Material Arm: Electric furnace steel (cast steel) Tensile strength Eng. No. 514 515 516  
 Crank shaft { Elongation Journal: 34-37 35-37 35-37 Identification Marks Eng. No. 514 515 516  
 Arm: 30-36 28-36 31-37 M-CK 357 M-CK 358 M-CK 359  
 Flywheel shaft, Material — Identification Marks DC LR JN LR JN LR  
 Identification marks on Air Receivers No. AR 561 Lloyd's test KOB W.T.P. 41 kg/cm<sup>2</sup> W.P. 25 kg/cm<sup>2</sup> JN LR 23-3-54

Is this machinery duplicate of a previous case Yes If so, state name of vessel m.v. "HAKONESAN MARU"

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

The electric generator sets of this vessel have been constructed under Special Survey in accordance with the Rule, approved plans and Secretary's letters.

The materials and workmanship are sound and good.

The electric generator sets have been examined under full working condition during shop and comprehensive sea trial and found satisfactory.

The amount of Fee ... ¥ 150,000 { When applied for OCT. 27 1954 19  
 Travelling Expenses (if any) ¥ See Rpt. 1 { When received 19

TUESDAY 11 JAN 1955

Committee's Minute

Assigned

See Rpt. 4 b.

J. Burris  
 H. Yamakura + J. Konojima  
 Surveyor to Lloyd's Register of Shipping

