

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. **3177**

Received at London Office **11 JAN 1956**

Writing Report 19... When handed in at Local Office **DEC. 30. 1955** Port of **K O B E**  
 Survey held at **Tamano** Date, First Survey **8th Feb., 1955** Last Survey **2nd Sept., 1955**  
 Number of Visits **29**

on the **M.V. "MEIKEI MARU"** Tons { Gross 7613.59  
Net 4285.30  
 Type **Screw vessel**

**Tamano, Japan** By whom built **Mitsui Shipbuilding & Eng., Co., Ltd. Yard No. 599** When built **Sept. 1955**  
 Port belonging to **Kobe**

Made at **Tamano, Japan** By whom made **Mitsui Shipbuilding & Eng., Co., Ltd.** Engine No. **563,564** When made **Sept. 1955**  
 Made at **Tamano, Japan** By whom made **Mitsui Shipbuilding & Eng., Co., Ltd.** Generator No. **7020,7021** When made **Sept. 1955**

2 B.H.P. of each Set **216 x 2** M.N. of each Set as per Rule **43.2 x 2** Capacity of each Generator **145x2** Kilowatts  
 Provided for essential services **Yes**

ENGINES, &c.—Type of Engines **Mitsui B. & W. D.E. 425 MTH 40** 2 or 4 stroke cycle **4** Single or double acting **Single**  
 pressure in cylinders **55 kg/cm<sup>2</sup>** Diameter of cylinders **245mm** Length of stroke **400mm** No. of cylinders **4** No. of cranks **4**

Timing order in cylinders **1-2-3-4** Span of bearings (i.e., distance between inner edges of bearings in way of a crank) **315mm**  
 bearing between each crank **Yes** Moment of inertia of flywheel **21,300,000** Kg.-cm.<sup>2</sup> ~~16,000,000~~ Revolutions per minute **450**

Weight **3030kgs** Means of ignition **compression** Kind of fuel used **Diesel oil**  
 dia. of journals **148.48mm** as per Rule **170mm** as fitted **170mm** Crank pin dia **170mm** Crank Webs **170mm** Mid. length breadth **290mm** Thickness parallel to axis **90mm**  
 Mid. length thickness **90mm** Thickness round eye-hole **82.5mm**

Shaft, diameter **148.48mm** as per Rule **170mm** as fitted **170mm** Generator armature, moment of inertia (~~16,000,000~~) **554,000** Kg.-cm.<sup>2</sup>

Means of lubrication **forced** Kind of damper if fitted **-**  
 Are the exhaust pipes and silencers ~~not~~ lagged with non-conducting material **Yes**

Water Pumps, No. and how driven **1-10m<sup>3</sup>/h x 18m** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes**  
 Oil Pumps, No. and size **1 - gear pump per each engine, Particulars of gear breadth 75mm module 6 No. of teeth 15, 450 r.p.m. Capacity 5.8m<sup>3</sup>/h.**

Compressors, No. **-** No. of stages **-** Diameters **-** Stroke **-** Driven by **-**  
 Air Pumps or Blowers, No. **-** How driven **-**

RECEIVERS:—Have they been made under Survey **Yes** State No. of Report or Certificate **AR-23894**  
 Details of safety devices **1 - 12mmspring loaded escape valve and 1 - 10mm fusible plug.**  
 Internal surfaces of the receivers be examined and cleaned **Yes** What means are provided for cleaning their inner surfaces: **Mud-hole**

Drain arrangement fitted at the lowest part of each receiver **Yes**  
 Air Receivers, No. **-** Cubic capacity of each **-** Internal diameter **-** thickness **-**

Welded or riveted longitudinal joint **-** Material **-** Range of tensile strength **-** Working pressure **-**  
 Air Receivers, No. **1** Total cubic capacity **0.1 M<sup>3</sup>** Internal diameter **1718mm** thickness **25mm**  
 Welded or riveted longitudinal joint **Welding** Material **O.H. Steel** Range of tensile strength **50 kg/cm<sup>2</sup>** Working pressure **kg/cm<sup>2</sup>**

ELECTRIC GENERATORS:—Type **3 Phase A.C. self-ventilated drip proof open type.**  
 Voltage of supply **445** volts. Full Load Current **219** Amperes. Direct or Alternating Current **Alternating current**  
 current system, state the periodicity **60** Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown **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 **Yes**

Are they so spaced 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 kv. full load rating, have the makers supplied certificates of test **Yes** and do the results comply with the requirements **Yes**  
 Generators are 100 kv. or over have they been built and tested under survey **Yes**

Are there any other machinery other than generator **110 V 5 KW Exciters Machine No.7025, 7026**  
 Are approved plans forwarded herewith for Shafting **12-5-1955 Kobe** Receivers **11-4-1955 Kobe** Separate Tanks **4-4-1955 Kobe**

Vibration characteristics if applicable been approved **19-7-1955** Armature shaft Drawing No. **3D-5719**  
 Are the gear required by the Rules been supplied **Yes**

Exhaust valves, 3 air inlet valves, 2 starting air valves, 1 set and 2 Fuel valves for one engine  
 1 Relief valve, 1 crank pin bearing, 1 gudgeon pin bush, 1 Fuel pump, 5 sets Fuel pipes for one engine  
 1 piston, 1 cylinder, 2 Indicator valves.

MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.  
 The foregoing is a correct description.  
**Asano S. Tanaka**  
 Senior Managing Director, Manufacturer.



Dates of Survey while building { During progress of work in shops -- } 1955: Feb. 8, 22, Mar. 4, 11, 15, Apr., 1, 7, 19, 22, 27, May 6, 10, 13, 17, 21, 24, June 3, 7, 11, 14, 16, 18, 22, July 4, 8, 12, 23, Aug., 2  
 { During erection on board vessel ---- } 1955: Sept. 2  
 Total No. of visits 29

Dates of Examination of principal parts—Cylinders 21-5-55 Covers - Pistons 3-6-55 Piston rods -

Connecting rods 3-6-55 Crank ~~and pistons~~ Eng. No. 563 No. 564 Intermediate shafts -  
 Arm: Electric furnace Steel 3-6-55 7-6-55 Eng. No. 563  
 Journal: Open Hearth Steel Tensile strength Arm: ✓ 47.7-48.9 kg/mm<sup>2</sup> / 48.1-49.0 564  
 Crank shaft { Material Eng. No. 563 564 Journal: ✓ 46.7-50.1 " ✓ 46.5-51.1  
 { Elongation Arm: 32-36% 30-32% Identification Marks Eng. No. 563 564  
 Journal: 32-36% 28-35% M-CK 382 M-CK 383  
 Flywheel shaft, Material - Identification Marks JN LR JN LR

Identification marks on Air Receivers No. AR 292 LLOYD'S TEST KOB W.T.P. 41 kg/cm<sup>2</sup> W.P. 25kg/cm<sup>2</sup> JN LR 3-6-55  
 630

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 generators of this vessel have been constructed under Special Survey in accordance with the Rules, approved plans and Secretary letters.  
 The workmanship and materials are sound and good.  
 The Electric generators have been examined under working condition during shop and comprehensive sea trial and found satisfactory.

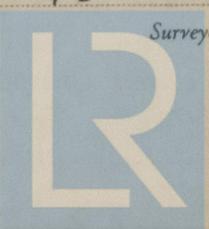
C.E.R.D.

6. 54 (MADE AND PRINTED IN JAPAN) 19/11/55 (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... ¥ 70,000 { When applied for DEC. 30, 1955  
 Travelling Expenses (if any) ¥ See Rpt. 1. { When received 19

FRIDAY 10 FEB 1956

Committee's Minute  
 Assigned See Rpt. 4 B.

*Sturris J. Honohue*  
 Surveyor to Lloyd's Register of Shipping.  
  
 Lloyd's Register Foundation