

Kob. No. 1536  
No. 972

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

Date of writing Report 2-4-53 (Yokohama) 19... When handed in at Local Office 27. AUG. 1953 19... Received at London Office E9 SEP 1953

No. in Survey held at Shimizu & Aioi, Japan Date, First Survey 24-10-52 Last Survey 21-6-53 (Kobe) 19...  
 Reg. Book. Number of Visits 15

Single on the Triple Screw vessel S.T. "KOHO-MARU" Tons { Gross 17808.11  
 Net 13377.88

Built at Aioi, Japan By whom built HARIMA SHIPBUILDING WORKS Yard No. 477 When built July, 53

Owners Imo Kaun K.K. Port belonging to Tokyo

Oil Engines made at Shimizu, Japan By whom made Ito Engineering Co., Ltd. Contract No. 4078 When made 3-53

Generators made at Himeji, Japan By whom made Tokyo Shibaura Electric Co., Ltd. Contract No. 5258176 When made 2-53

No. of Sets 1 Engine Brake Horse Power 120 M.N. as per Rule 24 Total Capacity of Generators 90 KVA Kilowatts.

Is Set intended for essential services \_\_\_\_\_

**OIL ENGINES, &c.**—Type of Engines 4 SCSA Trunk Piston 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 55 kg/cm<sup>2</sup> Diameter of cylinders 185 mm Length of stroke 260 mm No. of cylinders 5 No. of cranks 5

Mean indicated pressure 5.45 kg/cm<sup>2</sup> Firing order in cylinders 1-2-4-5-3 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 ( $\pm 6\text{-m}^2$  or Kg.-cm.<sup>2</sup>) 6 x 10<sup>5</sup> Revolutions per minute 600

Flywheel dia 860 mm Weight 453 kg Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 102.6 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 ( $\pm 6\text{-m}^2$  or Kg.-cm.<sup>2</sup>) 388 x 10<sup>5</sup>

Are means provided to prevent racing of the engine when declutched - Means of lubrication Forced Kind of damper if fitted No.

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

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 M4 PCD 48 mm Breadth 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 AR-15308

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 peep 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 200 l x 2 Internal diameter 500 mm thickness 12 mm

Seamless, lap welded or riveted longitudinal joint Fusion welded Material O.H. steel Range of tensile strength 33.2  $\frac{1}{16}$ " Working pressure by Rules as approved

**ELECTRIC GENERATORS:**—Type Drip proof self ventilated 3 phase synchronous generator

Pressure of supply 450 volts Full Load Current 115.5 Amperes. Direct or Alternating Current A.C.

If alternating current system, state the periodicity 60 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 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 yes and do the results comply with the requirements yes

If the generators are 100 kw. or over have they been built and tested under survey -

Details of driven machinery other than generator -

**PLANS.**—Are approved plans forwarded herewith for Shafting 18-12-52 (Kobe) Receivers - Separate Tanks -

(If not, state date of approval)

Have Torsional Vibration characteristics if applicable been approved 8-12-52 (Kobe) per bon. sp. Armature shaft Drawing No. M 1027416

(state date of approval)

**SPARE GEAR** 2 cyl. piston rings, 1-piston pin bearing, 1-crank pin bearing, 1 main bearing, 1-cylinder liner, 3-exhaust valves, 1-suction valves, 1-starting valve, 2-fuel injection valves, 4-fuel valve nozzle tips, 1-cylinder relief valve, 1-fuel oil pump, 1-lub. oil pump gear, 2-fuel injection pipes with union joint. etc.

The foregoing is a correct description,  
Sho. Shiratori Manufacturer.  
Ito, Engineering Co., L.T.D.

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 Lloyd's Register  
 THE HARIMA SHIPBUILDING AND  
 ENGINEERING COMPANY, LTD.  
 012624 - 012630 - 0253

Dates of Survey while building  
 During progress of work in shops - 1952: OCT. 24, Nov. 11, DEC. 3, 17 1953: JAN. 14, 23, MAR. 6 (Yokohama)  
 During erection on board vessel - 1953: May 13, June 1, 16, 19, 21  
 Total No. of visits 7 (Yokohama) 8 (Kobe) 15.  
 Dates of Examination of principal parts - Cylinders 23-1-53 (cyl. block) Covers 17-12-52 Pistons 6-3-53 Piston rods -  
 Connecting rods 3-12-52 Crank and Flywheel shafts 8-11-52 (Kobe) Intermediate shafts -  
 Crank shaft: Material O.H. steel Tensile strength 36.6 T<sub>0</sub>"  
 Elongation 28 % Identification Marks NO. K-CK 305 HI LR 8-11-52  
 Flywheel shaft, Material - Identification Marks -  
 Identification marks on Air Receivers NO. AR 443 LLOYD'S TEST. W.T.P 45 Kg/cm<sup>2</sup> W.P 30 Kg/cm<sup>2</sup> JN LR 17-12-52  
 NO. AR 444 LLOYD'S TEST. W.T.P 45 Kg/cm<sup>2</sup> W.P 30 Kg/cm<sup>2</sup> JN LR 17-12-52

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 plan and Secretary's letters.

The materials and workmanship are good.

The Electric generator set has been examined under full power working condition in the shop and found satisfactory.

It is submitted that the generator set is eligible to be classed with this Society with notation of +LMC when satisfactorily installed in the vessel.

The generator set has been installed on board and tested under full working condition and found satisfactory.

The amount of Fee £ : : When applied for 19

Travelling Expenses (if any) £ : : When received 19

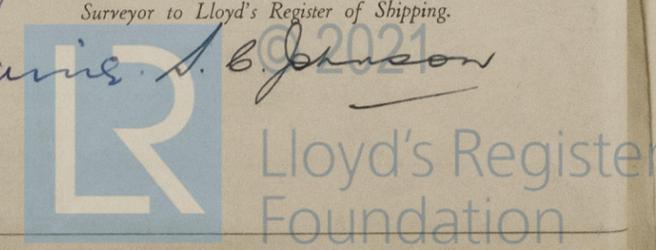
FRIDAY 16 OCT 1953

Committee's Minute

Assigned

See Rpt. 4a

*Y. Sanojima*  
 Surveyor to Lloyd's Register of Shipping.  
*W. B. Johnson*



CC 5. 51 KOBE  
 (The Surveyors are requested not to write on or below the space for Committee Minutes.)