

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 5350

Received at London Office

4 OCT 1934

Date of writing Report 1<sup>st</sup> September 1934 When handed in at Local Office

1/9/34 Port of Yokohama

Survey held at Yokohama

Date, First Survey 8<sup>th</sup> March 1933 Last Survey 27<sup>th</sup> August 1934

Number of Visits 97

654 on the <sup>Single</sup> ~~Twin~~ <sup>Triple</sup> ~~Quadruple~~ Screw vessel M/V "NAGARA MARU"

Tons { Gross 7142  
Net 4246

Built at Yokohama By whom built Yokohama Dock Co Ltd Yard No. 220 When built 1934-8

Owners Nippon Yusen K. K. Port belonging to Tokio

Oil Engines made at Yokohama By whom made Yokohama Dock Co Ltd Contract No. 1429 14211 When made 1934

Generators made at Nagasaki By whom made Mitsubishi Denki K. K. Contract No. When made 1934

No. of Sets 3 Engine Brake Horse Power 375 Nom. Horse Power as per Rule 73 Total Capacity of Generators 750 Kilowatts.

**ENGINES, &c.**—Type of Engines Yokohama M. A. N. 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 45 Kg/cm<sup>2</sup> Diameter of cylinders 285 mm Length of stroke 420 mm No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 350 mm Is there a bearing between each crank Yes

Revolutions per minute 375 Flywheel dia. 1700 mm Weight 2400 Kg. Means of ignition Circuitless Kind of fuel used Heavy oil

Crank Shaft, dia. of journals as per Rule 166.5 mm as fitted 170 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 280 mm Thickness parallel to axis Solid

as per Rule 166.5 mm as fitted 170 mm Mid. length thickness 85 mm Thickness around eyehole

Flywheel Shaft, diameter as per Rule 166.5 mm as fitted 180 mm Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 20 mm

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes. Means of lubrication forced engine manifold water cooled

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. 2 (2 extra pumps as for Main Engines) Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size One for each engine 3980 litres/hour

Air Compressors, No. Two No. of stages three Diameters L.P. 360-105% Stroke 250 Driven by Cum. Diesel Engine No. 14210

Scavenging Air Pumps, No. Diameter Stroke Driven by

**AIR RECEIVERS:**—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 by 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. one for the 3 sets. Total cubic capacity 14.126 cu ft. Internal diameter 500 mm thickness 13 mm

Seamless, lap welded or riveted longitudinal joint S. R. D. B. S. Material Steel Range of tensile strength 44/55 Kg/cm<sup>2</sup> Working pressure by Rules 32.9 Kg

**ELECTRIC GENERATORS:**—Type Multipole 250 K.W.

Pressure of supply 225 volts. Load 1,110 Amperes. Direct or Alternating Current direct

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding rating Yes are they compound wound Yes

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator

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

PLANS. Are approved plans forwarded herewith for Shafting 22/4/33 Receivers 1/5/33 Separate Tanks 13/10/33

PARE GEAR as per Rules

The foregoing is a correct description,

S. Tsunematsu

Manufacturer.



© 2021

Lloyd's Register Foundation

009570 - 009579 - 0011

8, 24, 27, 30/3 4, 5, 7, 10, 11, 26/4 1, 2, 3, 5, 6, 8, 10, 17, 24, 27/5 9, 10, 13/6 6, 7, 10, 13, 15, 25/7 2, 29/8 1/9 11, 24, 29/11 4, 6, 9, 18, 19, 27/12 /1933  
 10, 11, 12, 13, 17, 18, 19, 25, 30, 31/1 1, 9, 26/2 1, 2, 6, 8, 10, 12, 20, 29/3 5, 6, 9, 12, 28, 30/4 7, 8, 11, 22, 24, 25/5 /1934  
 31/5 4, 7, 8, 12, 13, 19, 21, 26, 30/6 2, 4, 9, 16, 21, 24, 31/7 3, 8, 11, 13, 24, 27/8 /1934  
 Total No. of visits 97

Dates of Examination of principal parts—Cylinders 27/3/33 to 18/12/33 Covers 5/5/33 to 15/7/33 Pistons 11/1/34 Piston rods ✓

Connecting rods 8/3/33 to 9/2/34 Crank and Flywheel shaft 3/1/34 Intermediate shaft ✓

Crank and Flywheel shaft, Material Steel Identification Mark 8 N: 10054 M.B. 24.7.33 } Crank shaft  
 8 N: 14980 K.H. 1. 8. 33 }  
 8 N: 1728 F.S. 7. 8. 33 }  
 Identification Mark 8 N: 2733 T.K. 13.12.33 Flywheel shaft ✓ Identification Marks ✓

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 Auxiliary machinery has been built and fitted on board the Vessel under Special Survey in accordance with the Rules and approved plans. Material and Workmanship good. The machinery was examined running on Shop Trials and afterwards under full working conditions on board, with satisfactory results.

The machinery of this Vessel is eligible in my opinion to have the record of + L.M.C. 8.34 in the Register Book.

10, 7, 29—Transfer.  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Fee ... £ ✓ :  
 Travelling Expenses (if any) £ :  
 When applied for, 19  
 When received, 19

G. H. Macdonald  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 12 OCT 1934**  
 Assigned See other J.K.A. J.C. R/L