

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

KOBE  
No. F-2278  
Yokohama  
16832

Kobe MAY 10 1955

Received at London Office  
Kobe & Yokohama.

Date of writing Report 10th JUNE 1955 When handed in at Local Office JUN 21 1955 19

Port of 5-11-1954  
Kobe & Yokohama. 6-6-1955 (Yokohama)  
15-11-1954 Last Survey 11-3-1955

No. in Survey held at Tamashima + Yokosuka, Japan Date, First Survey 15-11-1954 Last Survey 11-3-1955  
Reg. Book. Number of Visits 15 (Kobe) 31 (Yokohama)

on the <sup>Single</sup> ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel M.V. "KENWA MARU" Tons { Gross 6573.45 Net 3746.51

Built at Yokosuka, Japan By whom built Uruga Shipbuilding Yard, The Uruga Dock Co. Ltd. Yard No. 673 When built 6-1955

Owners Nitto Shosen K.K. Port belonging to Tokyo

Oil Engines made at Tamashima, Japan By whom made Uruga Tamashima Diesel Kogyo Engine No. 273 When made 3-1955

Generators made at Kobe, Japan By whom made Mitsubishi Electric Co., Ltd. Generator No. 15463 When made 2-1955

No. of Sets 2 B.H.P. of each Set 220 x 2 M.N. of each Set as per Rule 44 x 2 Capacity of each Generator 2 x 140 Kilowatts (2 x 175 KVA)

Is Set intended for essential services yes

**OIL ENGINES, &c.**—Type of Engines Uruga-Sulzer 6BH22 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 55kg/cm<sup>2</sup> Diameter of cylinders 220mm Length of stroke 320mm No. of cylinders 6 No. of cranks 6

Mean indicated pressure 6.6kg/cm<sup>2</sup> Firing order 1-5-3-6-2-4 in cylinders: Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 249m/m

Is there a bearing between each crank Yes { Moment of inertia of flywheel (16 m<sup>2</sup> or Kg-cm.<sup>2</sup>) 963kg/M<sup>2</sup> Revolutions per minute 514

Flywheel dia. 1,300mm Weight 1,020kg Means of ignition Compression Kind of fuel used A Heavy oil.

Crank Shaft, { Solid forged dia. of journals as per Rule 127.4m/m as fitted 155 m/m Crank pin dia 145m/m Crank Webs Mid. length breadth 280m/m Thickness parallel to axis 64m/m Thickness round eyehole

Flywheel Shaft, diameter as per Rule Generator armature, moment of inertia (16 m<sup>2</sup> or Kg-cm.<sup>2</sup>) 160 kg m<sup>2</sup>

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 water cooled or lagged with non-conducting material Yes

Cooling Water Pumps, No. and how driven 1 each driven by aux. 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 type 76mm P.C.D. x 90mm width 1st stage 250mm 2nd stage 250-225mm Driven by magnetic clutches of aux. engine

Air Compressors, No. 2 No. of stages 2 Diameters 250-225mm Stroke 170mm Driven by of aux. engine

Scavenging Air Pumps or Blowers, No. How driven

**AIR RECEIVERS:**—Have they been made under Survey yes State No. of Report or Certificate YAR 55

State full details of safety devices Safety valve fitted as per Rules.

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 400 l Internal diameter 700 mm thickness 16 mm

Seamless, lap welded or riveted longitudinal joint Material O.H. steel Range of tensile strength 42-47 kg/cm<sup>2</sup> Working pressure 30 kg/cm<sup>2</sup>

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

Pressure of supply 450 volts. Full Load Current 225 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 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 Two (2) starting air compressors.

**PLANS:**—Are approved plans forwarded herewith for Shafting 24-12-1954 (Kobe) Receivers 7-12-54 (Kobe) Separate Tanks 7-12-54 (Kobe)

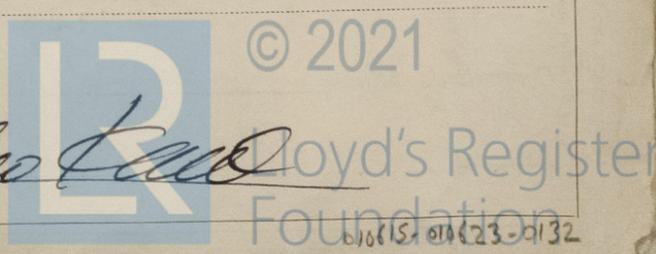
Have Torsional Vibration characteristics if applicable been approved 8-3-1955 provisionally only Armature shaft Drawing No. A 248513

Has the spare gear required by the Rules been supplied yes 26.8.55 for 514 RPM

The foregoing is a correct description,

S. Kane ko Manufacturer.  
Uruga Tamashima Diesel Works, Ltd.,  
TAMASHIMA.

Lloyd's Register  
Foundation



1954: DEC. 10, 17, 20, 24, 27  
 1955: JAN. 12, 19 FEB. 2, 14, 16, 18, 21, 23, 25, 28  
 MAR. 4, 9, 11, 17, 23, 29, 31

Dates of Survey while building  
 During progress of work in shops - 1954: Nov. 15, 29, Dec., 8, 14, 20  
 During erection on board vessel - 1955: Jan., 13, 18, 29 Feb., 3, 9, 15, 26, Mar. 9, 10, 11  
 Total No. of visits 15 (Kobe) 31 (Yokohama)

Dates of Examination of principal parts - Cylinders 13-Jan.-55 29-Jan.-55 Covers 3-Feb.-55 9-Feb.-55 Pistons 18-Jan.-55 Piston rods  
 Connecting rods 15-Feb.-55 Crank and Flywheel shafts Eng.No.272 14-Jan-55 Eng.No.273 20-Jan-55 Intermediate shafts Eng.No.272 56.4kg/mm2 Eng.No.273 56.2kg/mm2  
 Crank shaft (Material O.H. Steel Eng.No.272 30% Elongation 30%) Tensile strength Eng.No.272 56.4kg/mm2 Identification Marks LLOYD'S KCK426 MS LR 14-1-55  
 Flywheel shaft, Material Identification Marks - 14-1-55

Identification marks on Air Receivers 400<sup>l</sup> NO. YAR 55 LLOYD'S TEST 48.5 KG WP 30 KG H.T. 1-4-55

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 oil engines have been constructed under Special Survey in accordance with the Rules approved plans and Secretary's letters.  
 The materials and workmanships are sound, good and free from defect.  
 The auxiliary oil engines have been examined under full working condition in the shop and found satisfactory.

The auxiliary oil engines have been satisfactorily installed in the vessel and tested under full working condition and found satisfactory.  
 It is submitted that the auxiliary oil engines are eligible to be classed with this Society with the notation of + LMC 6,55.

Crank case explosion device fitted as per plan in accordance with CR. NO. 2045.

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

The amount of Fee ... Y 70,000  
 Kobe (See Rpt. 46)  
 Travelling Expenses (if any) Y  
 Kobe (See Rpt. 46)

Kobe: 11-4-55  
 When applied for JUN. 2, 1955  
 When received 19

*[Signatures]*  
 Surveyor to Lloyd's Register of Shipping.

FRIDAY - 5 AUG 1955

Committee's Minute

Assigned

See Rpt 46

