

30 NOV 1953

4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 1691

Received at London Office

Writing Report 19 When handed in at Local Office 17. NOV. 1953 Port of Kobe

Survey held at Osaka & Aioi Date, First Survey 26th March Last Survey 22nd Aug 1953 Number of Visits 16

on the ~~Port~~ ~~Triple~~ ~~Quadruple~~ Single Screw vessel steam tanker "DAIKYO MARU" Tons Gross 13,224.20 Net 9,553.47

at Aioi, Japan By whom built Harima Shipbuilding & Engineering Co. Ltd. Yard No. 479 When built Aug. 1953

Engines made at Osaka By whom made Daihatsu Kogyo K. K. Engine No. 618061 When made June 1953

Generators made at Tokyo By whom made Tokyo Shibaura Electric Co. Ltd. Generator No. 5354008 When made May 1953

Sets 1 B.H.P. of each Set 125 M.N. of each Set as per Rule 25 Capacity of each Generator 90 K.V.A. Kilowatts

intended for essential services No, harbour & emergency use.

ENGINES, &c. Type of Engines Solid injection, Daihatsu 6PS-18B 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 55 kg/cm² Diameter of cylinders 180 mm Length of stroke 240 mm No. of cylinders 6 No. of cranks 6

Indicated pressure 6.4 kg/cm² Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 239.5 mm

Are there a bearing between each crank Yes Moment of inertia of flywheel (kg-m² or Kg-cm²) 2.31 x 10⁶ Revolutions per minute 600

Wheel dia 900 mm Weight 510 kg Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, Solid forged dia. of journals as per Rule 104.8 mm Crank pin dia 115 mm Crank Webs Mid. length breadth 70 mm Thickness parallel to axis shrunk Mid. length thickness 60 mm Thickness round eyeballs

Wheel Shaft, diameter as per Rule Generator armature, moment of inertia (kg-m² or Kg-cm²) 1.57 x 10⁶ (Rotor) 9.5 x 10⁵ (Exciter armature)

Means provided to prevent racing of the engine Yes Means of lubrication forced Kind of damper if fitted not fitted

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

Are the cooling Water Pumps, No. and how driven 1 x engine geared Is the sea suction provided with an efficient strainer which can be cleared within the vessel? Yes

Lubricating Oil Pumps, No. and size 1 x 1.6 T/H gear pump, engine geared

Compressors, No. 1 No. of stages 2 Diameters 1 3/8" - 3 1/2" Stroke 3" Driven by SHP motor

Engining Air Pumps or Blowers, No. not fitted How driven

RECEIVERS: Have they been made under Survey Yes State No. of Report or Certificate AR 15089

Give full details of safety devices 12 mm Ordinary Type

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

Are there a drain arrangement fitted at the lowest part of each receiver Yes

Are there Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Are they, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure

Are there Air Receivers, No. Total cubic capacity 100 litre Internal diameter 332 mm thickness 9 mm

Are they, lap welded or riveted longitudinal joint Welded Material A.H. steel Range of tensile strength 22.8 T.S. Working pressure 30 kg/cm²

ELECTRIC GENERATORS: Type Semi-enclosed, drip-proof

Voltage of supply 450 volts Full Load Current 115.5 Amperes Direct or Alternating Current 3 phase Alternating Current

Is it an alternating current system, state the periodicity 60 Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown

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

Are they shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

Do 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

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

Are there tools of driven machinery other than generator generators only

Are approved plans forwarded herewith for Shafting 6-5-53 (Kobe) Receivers 17-2-53 Kobe Separate Tanks 14-4-53 Kobe

Are the Torsional Vibration characteristics if applicable been approved Yes 16-7-53 Armature shaft Drawing No. M1027487

Are the spare gear required by the Rules been supplied Yes

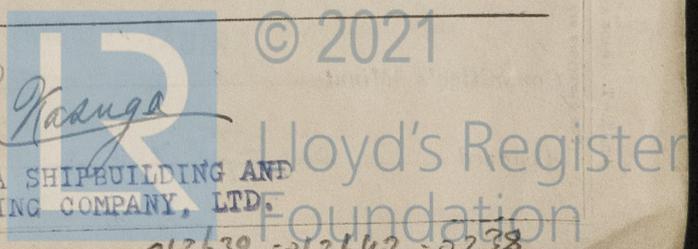
The foregoing is a correct description,

I Takuma
for Daihatsu Kogyo K. K., Osaka

Manufacturer.

THE HARIMA SHIPBUILDING AND ENGINEERING COMPANY, LTD.

013639 - 013642 - 0238



gd
29/12/53

Dates of Survey while building { During progress of work in shops - -) 1953: March 26, May 6, 16, 19, June 1, 13, 15, ;
 Feb. 16, April 1, 10, 22, May 9.
 { During erection on board vessel - -) 1953: July 21, 25, Aug 19, 22
 Total No. of visits 16
 7 visits
 5 visits

Dates of Examination of principal parts - Cylinders 6.5.53 Covers 6.5.53 Pistons 15.6.53 Piston rods -
 Connecting rods 16.5.53 Crank and Flywheel shafts 19.5.53 Intermediate shafts -

Crank shaft { Material Forged steel Tensile strength 54.9 Kg/mm²
 Elongation 32% Identification Marks KW-CK 135 hi B 14-5-53

Flywheel shaft, Material - Identification Marks -

Identification marks on Air Receivers. NO. AR 490 LLOYD'S TEST W.T.P - 48.5 kg/cm² W.P - 30 kg/cm²
 JN LR 9-5-53

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 plans and Secretary's letters.

The materials were found sound and free from defects and workmanship is good.

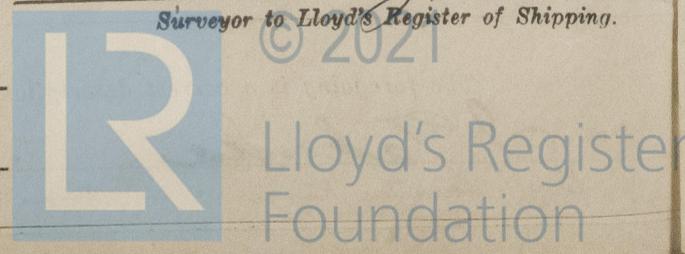
The electric generator set has been examined under full working condition during shop and comprehensive sea trial and found satisfactory.

The amount of Fee ... £ 423,000 When applied for 1-8 1953
 Travelling Expenses (if any) £ : : When received 19 -

FRIDAY 15 JAN 1954

Committee's Minute
 Assigned See Rpt. Ha.

Sturges
 Surveyor to Lloyd's Register of Shipping.



4m.5.52.-T. (MADE AND PRINTED IN ENGLAND)
 (The Surveys are requested not to write on or below the space for Committee Minutes.)