

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 3494

Received at London Office

JULY 1956

Date of writing Report 19 When handed in at Local Office OCT. 19. 1956 Port of KOBE

No. in Survey held at Osaka, Japan Date, First Survey 21st Nov., 1955 Last Survey 27th March 1956  
 Reg. Book. Innoshima

on the Single Screw vessel "Naess Venturer" Number of Visits (3rd) 15  
 Gross Tonnage 228.89 30  
 Net Tonnage 152.07 30

Built at Innoshima, Japan By whom built Hitachi S.B. & E. Co., Ltd., Yard No. 3777 When built 7mo. 1956  
 Innoshima Shipyard

Owners Port belonging to Monrovia

Oil Engines made at Osaka, Japan By whom made Daihatsu Kogyo K.K. Engine No. 618144 When made 3-1956.  
 Generators made at Hitachi, Japan By whom made Hitachi Ltd. Generator No. 12956-1 When made 2-1956.

No. of Sets 1 B.H.P. of each Set 150 M.N. of each Set as per Rule 37.5 Capacity of each Generator 100 Kilowatts  
 (125 KVA)

Is Set intended for essential services No

OIL ENGINES, &c.—Type of Engines 4 S.C. S.A. 3 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 55 kg/cm<sup>2</sup> Diameter of cylinders 180mm Length of stroke 240mm No. of cylinders 6 No. of cranks 6

Mean indicated pressure 5.12 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 239mm

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m<sup>2</sup> or kg-cm<sup>2</sup>) 231 kg-M<sup>2</sup> Revolutions per minute 720

Flywheel dia. 900mm Weight 480 kg. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, Solid forged dia. of journals as per Rule As approved 130mm Crank pin dia. 115mm Crank Webs Mid. length breadth 170mm Thickness parallel to axis —  
 Semi built as fitted 130mm Mid. length thickness 60mm shrunk Thickness round eye hole —

Flywheel Shaft, diameter as per Rule — Generator armature, moment of inertia (16 m<sup>2</sup> or kg-cm<sup>2</sup>) 152 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 Direct driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size 1, Direct drive gear type, Particulars of gear:— No. of teeth 10, Module 4, r.p.m. 845.

Air Compressors, No. 2 No. of stages 2 Diameters 5½", 6" Stroke 4" Driven by Elect. Motor Driven

scavenging Air Pumps or Blowers, No. — How driven —

AIR RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate AR-29227  
 (other than main engines) Spring loaded relief valve on shell AR-29228

State full details of safety devices

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. 2 Total cubic capacity 5M<sup>3</sup> Internal diameter 1,000 mm Shell, 12  
 Fusion Boiler thickness End, 16mm

Seamless, lap welded or riveted longitudinal joint welded Material quality steel Range of tensile strength End, 51.0 kgs/mm<sup>2</sup> Working pressure 14 kgs/cm<sup>2</sup>

ELECTRIC GENERATORS:—Type Drip proof, Semi-enclosed, Self ventilated.

Pressure of supply 450 volts. Full Load Current 160 Amperes. Direct or Alternating Current A.C.

For 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

Are the generators 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

Details of driven machinery other than generator None

PLANS.—Are approved plans forwarded herewith for Shafting 1-12-1956 Receivers 10-5-55 Separate Tanks 10-4-56  
 (If not, state date of approval)

Have Torsional Vibration characteristics if applicable been approved — 20/3/56 for 720 RPM Armature shaft Drawing No. —  
 (State date of approval and name of previous duplicate case, if any)

Is the spare gear required by the Rules been supplied Yes

The foregoing is a correct description,

Akamatsu, Manager Innoshima Shipyard

Manufacturer.



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Dates of Survey while building { During progress of work in shops - - 1955:- Nov. 21, Dec., 9: 1956:- March 27.  
During erection on board vessel - - 1956:- May 21, 26 June 7, 16, 29, July 9, 17, 25, 27, 29, 30, 31  
Total No. of visits 15

Dates of Examination of principal parts - Cylinders 9-12-55 Covers 9-12-55 Pistons 9-12-55 Piston rods -

Connecting rods 9-12-55 Crank and Flywheel shafts 9-12-55 Intermediate shafts -

Crank shaft { Material Forged Steel Tensile strength 58.5 kg/mm<sup>2</sup>  
Elongation 29% Identification Marks K-CK 501  
KT LR 9-12-55

Flywheel shaft, Material - Identification Marks -

Identification marks on Air Receivers Nos. 29227 29228 LLOYD'S TEST KOB 24.5kgs. W.P. 14kgs Y.H. LR 22-2-56

Is this machinery duplicate of a previous case Yes If so, state name of vessel Tsurumi S.No. 715 & 716

### GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The Generator set has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.

The material and workmanship are sound and good.

The Generator set has been examined under full load working condition in the shop and found satisfactory.

The Oil Engine Electric Generator Set, was installed in the ship in accordance with the Rules, and on completion tried under full working conditions with satisfactory results.

Crank case explosion relief devices are fitted.

The amount of Fee ... £ 26:00:00

When applied for APR 4 1956 19

Travelling Expenses (if any) £ 1:20:00

When received 19

Committee's Minute

TUESDAY 18 DEC 1956

Assigned

See Rpt. 1

Surveyor to Lloyd's Register of Shipping.



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