

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 93864

Received at London Office 17.5.29 24 APR 1930

Writing Report 15th May 1929 When handed in at Local Office 17th May 1929 Port of London
Survey held at Bedford Date, First Survey 9th November 1928 Last Survey 26th April 1929
Number of Visits 24

on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel *Auto Ship "HEIYO MARU"* Tons ^{Gross} 9815.69
at *Osaka* By whom built *Osaka Iron Works* Yard No. 1127 When built ✓

Engines made at *Bedford* By whom made *Messrs. W.H. Allen & Sons* Contract No. 12623 When made 1929
Generators made at *Bedford* By whom made *Messrs. W.H. Allen & Sons* Contract No. 12626 When made 1929

of Sets 3 Engine Brake Horse Power ^{462 each} 1386 total Nom. Horse Power as per Rule ^{132 each} 396 total Total Capacity of Generators 924 Kilowatts.

ENGINES, &c. Type of Engines *Diesel (Burmester & Main)* 2 or 4 stroke cycle 4 Single or double acting *Single*
Maximum pressure in cylinders *500 lb* Diameter of cylinders *350 mm.* Length of stroke *470 mm.* No. of cylinders 6 No. of cranks 6

of bearings, adjacent to the Crank, measured from inner edge to inner edge *420 mm* Is there a bearing between each crank *yes*
Revolutions per minute *300* Flywheel dia. *1800 mm* Weight *9162 lb* Means of ignition *Compression* Kind of fuel used *Diesel.*

Crank Shaft, dia. of journals as per Rule *190 mm* as fitted *210 mm* Crank pin dia. *210 mm* Crank Webs Mid. length breadth *310 mm* Thickness parallel to axis *Solid forged*
as fitted *105 mm* shrunk Thickness around eye hole

Intermediate Shafts, diameter as per Rule *✓* as fitted *✓* Thickness of cylinder liners *28 mm.*
Governor or other arrangement fitted to prevent racing of the engine when declutched *yes* Means of lubrication *Mechanical forced, engine driven.*

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. *2 Centrifugal* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *✓*

Lubricating Oil Pumps, No. and size *One per engine, driven off engine*
Compressors, No. *3 (1 to each set)* No. of stages *3* Diameters *292, 260, 57* Stroke *214 mm.* Driven by *Crank on shaft*

Engining Air Pumps, No. *✓* Diameter *✓* Stroke *✓* Driven by *✓*
RECEIVERS: — Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Fusible plug*

Are the internal surfaces of the receivers be examined *yes* What means are provided for cleaning their inner surfaces *portable sand*
Are there a drain arrangement fitted at the lowest part of each receiver *yes*

Pressure Air Receivers, No. *3 (1 to each set)* Cubic capacity of each *90 litres* Internal diameter *9 3/4"* thickness *3/8"*
Material *steel* Range of tensile strength *29-33 tons* Working pressure by Rules *1026 lbs*

Engining Air Receivers, No. *3* Total cubic capacity *450 litres* Internal diameter *12"* thickness *1/2"*
Material *steel* Range of tensile strength *29-33 tons* Working pressure by Rules *1168 lbs*

ELECTRIC GENERATORS: Type *Open type, multiple with interpoles.*
Voltage of supply *225* volts. Load *1370* Amperes. Direct or Alternating Current *Direct*

Are 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. *No*, if not compound wound state distance between each generator *✓*
Are 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*
Are approved plans forwarded herewith for Shafting *appd. 27.6.29* Receivers *✓* Separate Tanks *✓*

GEAR
As per drawing K/73791 herewith.

The foregoing is a correct description,

M. W. H. Allen & Sons Ltd

Manufacturer.



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604311-009720-0128

10889
 Dates of Survey while building: During progress of work in shops - 1928 Nov 9, 16. 1929 Jan 17, 20, 26, 30 Feb 4, 8, 15, 22, 26. March 1, 8, 4c.
 During erection on board vessel - March 19, 28 April 8, 15, 16, 17, 18, 19, 22, 26.
 Total No. of visits 24

Dates of Examination of principal parts - Cylinders Jan 17, 20, 26, 30 Feb 4, 8, 15, 22. Covers Jan 17, 20, 26, 30 Feb 4, 8. Pistons Mar 8 Piston rods -

Connecting rods: Nov 9, 16, 1928 Crank and Flywheel shaft Mar 8 Intermediate shaft

Crank and Flywheel shaft, Material Steel Identification Mark See below Intermediate shafts, Material & Identification Marks

Is this machinery duplicate of a previous case? No If so, state name of vessel M.V. "KARAMEA"

General Remarks (State quality of workmanship, opinions as to class, &c.)
 Crank shafts: - Identification Marks: -

| | | |
|----------|----------------|---------|
| Eng. A | Eng. B. | Eng. C. |
| 398 | 419 | 481 |
| R.W.F. | Lloyds | Lloyds |
| Lloyds | 1234 | 1301 |
| 1156 | 18.1.29 R.W.F. | S. 2.29 |
| R.W.F. | R.W.F. | R.W.F. |
| 28-12.28 | 1646b, | 1646 |
| 1646b | 2 | 3. |

This machinery has been constructed under special survey accordance with the approved plans and Rule requirements. The workmanship & materials, so far as can be seen, are good, & satisfactory bench trials have been carried out under survey. The three sets which are numbered 12623/A/B/C have despatched to Japan where they are to be installed, and, in my opinion, will be eligible for inclusion in the classification record of + LMC of the vessel.

The machinery has now been installed in the vessel under special survey, in accordance with the requirements of the Rules, and on completion was tested under full working conditions and found to be efficient.

A. A. Garnett
 J. Morris

1m, 7, 28 - Transfer. (The Stewards are requested not to write on or below the space for Committee's Minute.)

The amount of Fee ... £ 39 : 12 :
 Travelling Expenses (if any) £ 15 : 8 :
 When applied for, 19...
 When received, 19...

L. H. F. Young (for self & A. A. Chalmers)
 Surveyor to Lloyd's Register of Shipping.
 WED. 8 APR 1930

Committee's Minute
 Assigned
 TUE. 29 APR 1930
 TUE. 13 MAY 1930
 FRI. 17 APR 1931
 TUE. 28 OCT 1930
 See Kob. J.E. 6879

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