

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 5-95-C

Received at London Office

When handed in at Local Office 19... Port of...  
 held at Nanao Shipyard & Engine Works, East Japan Heavy Ind., Ltd. Date, First Survey 11th July Last Survey 21st Oct., 1951.  
 Number of Visits 26

Screw vessel M.V. "BANDON 1" Tons { Gross 395.18 Net 245.21  
 Japan. Nanao Shipyard & Engine Works, Ishikawa Prefecture By whom built East Japan Heavy Ind., Ltd. Yard No. NG 30 When built Oct., 1951.

Port belonging to Bangkok.  
 By whom made Japan. Koga Engineering Works, East Japan Heavy Ind., Ltd. Contract No. 31329 When made June 1951.  
 By whom made Shinko Electric Co., Ltd. Contract No. 150102 When made April, 1951.

Engine Brake Horse Power 50 (Metric M.N. as per Rule 10 Total Capacity of Generators 30 Kilowatts.  
 essential services Yes

**450SA**  
**INES, &c.**—Type of Engines 3MC, Pre-Combustion Chamber 2 or 4 stroke cycle 4 Single or double acting Single  
 in cylinders 50 kg/cm<sup>2</sup> Diameter of cylinders 150 m/m Length of stroke 200 m/m No. of cylinders 3 No. of cranks 3  
 Firing order in cylinders 1-3-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 184 m/m  
 between each crank Yes Moment of inertia of flywheel (r<sup>2</sup>-m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 419350 kg.-cm.<sup>2</sup> Revolutions per minute 750

Weight 440 kgs. Means of ignition Compression Kind of fuel used Diesel Oil  
 as per Rule 86.24 m/m Crank pin dia 92 m/m Crank Webs Mid. length breadth 120 m/m Thickness parallel to axis -  
 as fitted 100 m/m Mid. length thickness 48 m/m Thickness round eyehole -

Intermediate Shafts, diameter as per Rule - as fitted - General armature, moment of inertia (r<sup>2</sup>-m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 21 kg.-m<sup>2</sup>  
 shaft, diameter as per Rule - as fitted - Means of lubrication Forced Kind of damper if fitted -

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

Water Pumps, No. 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
 Oil Pumps, No. and size 1, dia. 12 m/m  
 Compressors, No. 1 No. of stages 2 Diameters 1st stage 4.25" 2nd stage 1.5" Stroke 3" Driven by Generator shaft through friction clutch  
 Air Pumps, No. - Diameter - Stroke - Driven by -

**RECEIVERS:**—Have they been made under Survey Yes State No. of Report or Certificate M3609 AR226, AR227  
 which can be isolated, fitted with a safety valve as per Rule Yes  
 Internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Hand Hole on End Plate  
 Drain arrangement fitted at the lowest part of each receiver Yes

Pressure Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness -  
 welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure by Rules -

Air Receivers, No. 2 Total cubic capacity 500 lts Internal diameter 400 m/m thickness 12 m/m  
 welded or riveted longitudinal joint Riveted Material Steel Plate Range of tensile strength 28-35 T/D Working pressure by Rules 35.8 kg/cm<sup>2</sup>

**TRIC GENERATORS:**—Type D.C. Compound, Drip proof, Semi enclosed type  
 Voltage of supply 225 volts. Full Load Current 133 Amperes. Direct or Alternating Current Direct  
 Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown Yes

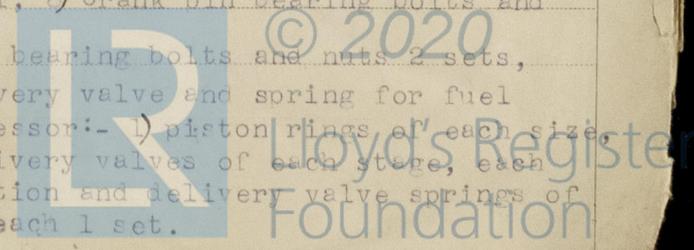
Generators, are they compounded as per Rule Yes is an adjustable regulating resistance fitted in series with each shunt field Yes  
 Terminals accessible, clearly marked, and furnished with sockets Yes Are they so spaced that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

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  
 Generators are 100 kw. or over have they been built and tested under survey -

Driven machinery other than generator 1 - Auxiliary Air Compressor  
**NS.**—Are approved plans forwarded herewith for Shafting 3-8-51 Receivers 8-6-51 (Kobe) Separate Tanks 31-8-51 (Kobe)  
 (If not, state date of approval) Armature shaft Drawing No. 3B-102989  
 Optional Vibration characteristics if applicable been approved - (state date of approval)

**RE GEAR** For Oil Engine:— 1) Suction valve with spring and fittings 1 set, 2) Exhaust valve with spring and fittings 1 set, 3) Starting valve complete 1 set, 4) Piston rings for 1 piston, 5) Fuel needle 2 sets, 6) Studs and nuts for 1 cylinder cover, 7) Gudgeon pin 1, 8) Crank pin bearing bolts and nuts 2 sets, 9) Crank pin bearing 1 set, 10) Gudgeon pin bush, 11) Main bearing bolts and nuts 2 sets, 12) Delivery valve and spring for fuel injection pump, 13) Delivery valve and spring for fuel injection pump, For Air Compressor:— 1) Piston rings of each size each 1 set, 2) Suction and delivery valves of each stage, each 1 set, 3) Suction and delivery valve springs of each stage, each 1 set.

The foregoing is a correct description,  
 M. Matsumi  
 Manufacturer.



bno-00190-016

Dates of Survey while building  
 During progress of work in shops-- } 1950:- Dec., 22, 1951:- April 20, June 27, 28.  
 During erection on board vessel-- } 1951:- July 11, 12, Aug., 2, Sept., 9, 10, 11, 12, 13, 14, 15, 16, Oct., 20, 21, 24, 25, 26, 27, 28, 29.  
 Total No. of visits Total 26

Dates of Examination of principal parts—Cylinders 20-4-51 Covers 20-4-51 Pistons 28-6-51 Piston rods -  
 Connecting rods 28-6-51 Crank and Flywheel shafts - Intermediate shafts -

Crank shaft: Material Electric furnace steel forging Tensile strength 38.2 Ton/Sq.in.  
 Elongation 32.5 % Identification Marks NO.Y946

Flywheel shaft, Material - Identification Marks -

Identification marks on Air Receivers  
 NO.AR226 LLOYD'S TEST WTP 48.5 KGS WP 30 KGS MS E 26-6-51  
 NO.AR227 LLOYD'S TEST WTP 48.5 KGS WP 30 KGS MS E 26-6-51  
 K.W.T. 70 LLOYD'S TEST WTP 14 KGS/CM<sup>2</sup> WP 7 KGS/CM<sup>2</sup> MH E 10-8-51

Is this machinery duplicate of a previous case - If so, state name of vessel -

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

The Engine has been constructed under supervision of the Society's Surveyors in accordance with the Rules and approved plans.  
 The materials and workmanship were found to be satisfactory.  
 The Generator set has been examined under full working condition in the shop and found satisfactory.  
 This machinery has been satisfactorily installed in the vessel and tried under working conditions.  
 It is submitted that the machinery of this vessel is eligible to be classed with this class to have the notation of **LMC 10-51**

Completed

The Surveyors are requested not to write on or below the space for Committee Minute.

The amount of Fee... (£ 10 : 0 : ) When applied for 19  
 Charged £ 10,000.-  
 Travelling Expenses (if any) £ : : When received 19

TUES. 13 MAY 1952

Assigned *See F.E. memo. rpt.*

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



CC 5. 51. KOB