

A09.7

Rpt. 13.

No. 1760

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

11 MAR 1954

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Date of writing Report 19... When handed in at Local Office FEB. 25. 1954 19... Port of Kobe

No. in Survey held at Tamano Japan Date, First Survey 25th July 53 Last Survey 28th Nov 1953

Reg. Book. (No. of Visits)

on the M.T. "OMUROSAN MARU" Tons Gross 13,102.72 Net 7,773.17

Built at Tamano Japan By whom built Mitsui S.B. & E. Co., Ltd. Yard No. 573 When built Nov. 53

Owners Mitsui Senpaku K.K. Port belonging to Tokyo

Installation fitted by Mitsui Shipbuilding & Engineering Co., Ltd. Tamano Works When fitted Nov. 53

Is vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. No Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Two Cond. Insulated Voltage of Lighting 110

Heating 110 Power 110 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency -

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted with a trip switch - Generators, are they compound wound Yes, and level compounded under working conditions Yes

Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole Negative

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule Yes Position of Generators Engine Room port

side built seat on tank top

is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil Yes Switchboards, where are main switchboards placed Port side in Engine Room

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil Yes, what insulation is used for the panels Synthetic resin bonded board, if of synthetic insulating material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule - Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear for each generator and arrangement of equaliser switches Triple pole Air break Breakers with over current & reverse current protection and a triple poles isolating switch

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Double pole Air break Breakers with over current protection, for circuits rated above 300 amperes, Double poles switch & fuses for circuits rated below 300 amperes

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 6

ammeters 5 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection Yes Earth Testing, state means provided Two lamps in series with mid-point earthed Preference Tripping, state if provided No, and tested -

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes

make of fuses Fuji Cartridge Cat. 3, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 1500 Amps - 10 sec., and at what current do the reverse current protective devices operate 100 Amps

Cables, are they insulated and protected as per Rule Yes, if otherwise than as per Rule are they of an Approved Type - state maximum fall of pressure between bus bars and any point under maximum load 6.56 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends Yes

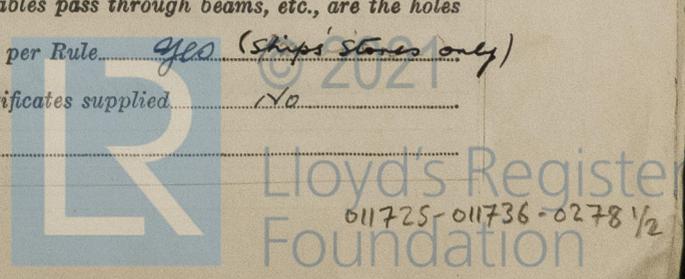
Are all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage Yes, are any cables laid under machines or floorplates No, if so, are they adequately protected - State type of cables (if in conduit this should also be stated) in machinery spaces Lead Sheathed armoured, galleys Lead Sheathed armoured

and laundries Lead Sheathed armoured State how the cables are supported or protected Clipped to solid or perforated steel tray, structured steel work or woodwork

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes effectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Yes (ships stores only)

Have refrigeration fan motors been constructed under survey No and test certificates supplied No

Are the motors accessible for maintenance at all times Yes



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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes Emergency Supply, state position Upper deck, aft in Steering Engine Room

Navigation Lamps, are they separately wired Yes controlled by separate double pole switches and fuses Yes Are the switches and fuses in a position accessible only to the officers on watch Yes is an automatic indicator fitted Yes Is an alternative supply provided Yes

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule Yes state battery capacity in ampere hours 2x24V, 120AH; 1x32V, 200AH Where required to do so does it comply with 1948 International Convention Yes

Lighting, is fluorescent lighting fitted No If so, state nominal lamp voltage - and compartments where lamps are fitted -

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Yes

Searchlights, No. of -, whether fixed or portable -, are they of the carbon arc or of the filament type -

Heating and Cooking, is the general construction as per Rule Yes, are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Yes Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil Yes

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment Yes Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing -

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule Yes

Lightning Conductors, where required are they fitted as per Rule Yes

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied with Yes, are all fuses of an Approved Cartridge Type Yes, make of fuse Fuji Cartridge Cat. 3 Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships Yes Are all cables lead covered as per Rule Yes

E.S.D., if fitted state maker Nippon Elect. Co. Ltd. location of transmitter and receiver Fr. 195-196 port & starboard

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations Yes

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory Yes

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | MAKER. | RATED AT | | | | TYPE. | PRIME MOVER. |
|------------------------------|--------|---------------------------|--------------------|--------|----------|----------------|----------|--------------------------|
| | | | Kw. per Generator. | Volts. | Ampères. | Revs. per Min. | | |
| MAIN | 2 | Mitsui S.B. & E. Co., Ltd | 110 | 110 | 1000 | 460 | OIL ENG. | Mitsui S.B. & E. Co. LTD |
| EMERGENCY ROTARY TRANSFORMER | 1 | Kurosaki Mfg. Co. Ltd | 10 | 110 | 91 | 1000 | OIL ENG. | Daihaten Kogyo K.K. |

GENERATOR CABLES.

| DESCRIPTION. | No. of | Kw. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|---------------------|--------|-----|---------------------------|--|-----------------------------|-------|---|-------------|----------------------|
| | | | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| MAIN GENERATOR | 2 | 110 | 2 | 0.5 | 1000 | 1044 | #1-24 | V.C. | L.S.A. |
| " EQUALISER | 1 | | 1 | 0.5 | | 522 | #2-24 | " | " |
| EMERGENCY GENERATOR | 1 | 10 | 1 | 0.06 | 91 | 130 | 15 | V.C. | L.S.A. |

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

| DESCRIPTION. | No. | Kw. | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | MAXIMUM CURRENT IN AMPERES. In the Circuit. | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. | |
|---|-----|-----|---------------------------|--|---|---|-------------|----------------------|--------|
| | | | | | | | | | Rule. |
| From M.S.B ² to Secondary Switchboard (Pop deck) | 1 | | 1 | 0.6 | 517.7 | 605 | 55 | V.C. | L.S.A. |
| " Shore connection Box (Pop DK) | 1 | | 1 | 0.4 | 400 | 448 | 115 | " | " |
| " Power panel #2 Cargo desiccator | 1 | | 1 | 0.15 | 167 | 238 | 120 | " | " |
| " #4 Rip. stone | 1 | | 1 | 0.1 | 79 | 185 | 120 | " | " |
| " #5 ER Vent. fan | 1 | | 1 | 0.06 | 84 | 130 | 24 | " | " |
| " #6 Mach. Tools | 1 | | 1 | 0.06 | 78 | 130 | 60 | " | " |
| " #7 ER F.O. LO filter | 1 | | 1 | 0.1 | 138 | 185 | 80 | " | " |
| " #8 ER Valve cool. L.O. ship | 1 | | 1 | 0.0145 | 48 | 85 | 16 | " | " |
| " #9 ER Aux. Cool. | 1 | | 1 | 0.0225 | 52 | 72 | 50 | " | " |
| " #10 ER F.W. Sanitary pp | 1 | | 1 | 0.04 | 68 | 101 | 60 | " | " |
| From Secondary S.B ² to section board | 1 | | 1 | 0.5 | 219.8 | 622 | 200 | V.C. | L.S.A. |

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

| DESCRIPTION. | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|---------------------------------|---------------------------|--|-----------------------------|-------|---|-------------|----------------------|
| | | | In the Circuit. | Rule. | | | |
| From Main Switchboard | | | | | | | |
| Navigation light | 1 | 0.007 | 11.8 | 27 | 230 | V.C. | L.S.A. |
| Light panel #8 | 1 | 0.0145 | 30.9 | 55 | 74 | " | " |
| #9 | 1 | 0.06 | 97.8 | 130 | 15 | " | " |
| Suez Canal search light (Box) | 1 | 0.1 | 40 | 185 | 320 | " | " |
| From Secondary Switchboard | | | | | | | |
| Light panel #4 | 1 | 0.0145 | 42.6 | 55 | 40 | V.C. | L.S. |
| #5 | 1 | 0.0145 | 40.7 | 55 | 8 | " | " |
| #6 | 1 | 0.01 | 34.7 | 41 | 50 | " | " |
| #7 | 1 | 0.01 | 25 | 41 | 25 | " | " |
| Wireless switchboard | 1 | 0.6 | 87 | 605 | 180 | " | L.S.A. |
| Emergency switchboard | 1 | 0.15 | 81 | 238 | 60 | " | " |
| Power panel #3 (Galley machine) | 1 | 0.007 | 19.7 | 27 | 25 | " | " |
| From Section board | | | | | | | |
| Light panel #1 | 1 | 0.0225 | 55.3 | 72 | 8 | V.C. | L.S. |
| #2 | 1 | 0.0225 | 43.5 | 72 | 20 | " | " |
| #3 | 1 | 0.0225 | 19.4 | 72 | 110 | " | L.S.A. |
| Power panel #1 | 1 | 0.007 | 18.1 | 27 | 12 | " | L.S. |
| Battery switchboard | 1 | 0.007 | 13 | 27 | 20 | " | " |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|--|-----|--------|---------------------------|--|-----------------------------|-------|---|-------------|----------------------|
| | | | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| Engine Room Vent fan | 2 | 5 | 1 | 0.0225 | 42 | 72 | #1.50 #2.30 | V.C. | L.S.A. |
| Aux. fresh water cool. pump | 1 | 3 | 1 | 0.01 | 26 | 41 | 24 | " | " |
| Aux. sea water cool. pump | 1 | 3 | 1 | 0.01 | 26 | 41 | 16 | " | " |
| Fuel valve cool. pump | 1 | 1.5 | 1 | 0.007 | 15 | 27 | 24 | " | " |
| Fuel oil circulate. pump | 1 | 1.5 | 1 | 0.007 | 15 | 27 | 24 | " | " |
| High pressure feed water pump | 2 | 1.5 | 1 | 0.007 | 15 | 27 | #1.6 #2.6 | " | " |
| Main Engine turning | 1 | 12 | 1 | 0.04 | 97 | 113 | 60 | " | " |
| L.O. Shift pump | 1 | 2 | 1 | 0.007 | 18 | 27 | 20 | " | " |
| Fresh water cool. pump | 1 | 5 | 1 | 0.0145 | 42 | 55 | 24 | " | " |
| Sea water sanitary pump | 1 | 3 | 1 | 0.01 | 26 | 41 | 16 | " | " |
| Fuel oil purifier | 1 | 6 | 1 | 0.0225 | 50 | 72 | 24 | " | " |
| F.O. mechanical filter & cleaner | 1 | 5 | 1 | 0.0145 | 42 | 55 | 24 | " | " |
| " | 1 | 1 | 1 | 0.007 | 10 | 27 | 20 | " | " |
| L.O. mechanical filter & cleaner | 1 | 3 | 1 | 0.007 | 26 | 27 | 20 | " | " |
| " | 1 | 1 | 1 | 0.007 | 10 | 27 | 20 | " | " |
| Compressor for Refrigerator | 2 | 7.5 | 1 | 0.0225 | 61 | 72 | #1.6 #2.16 | " | " |
| Cool. W. pump for Ref. Comp. | 1 | 2 | 1 | 0.0145 | 18 | 55 | 80 | " | " |
| Cool. W. pump for Emerg. Gen. | 1 | 1 | 1 | 0.007 | 10 | 27 | 120 | " | " |
| Accommodation Vent. fan #1 | 1 | 2.5 | 1 | 0.007 | 22 | 27 | 24 | " | " |
| " #2 | 1 | 3 | 1 | 0.01 | 26 | 41 | 35 | " | " |
| " #3 | 1 | 3 | 1 | 0.01 | 26 | 41 | 50 | " | " |
| " #4 | 1 | 1 | 1 | 0.007 | 10 | 27 | 40 | " | " |
| Galley Vent. fan | 1 | 0.4 | 1 | 0.0045 | 4 | 11 | 24 | VIR | " |
| Galley fresh water pump | 1 | 0.5 | 1 | 0.0045 | 5.7 | 11 | 66 | " | " |
| Oil firing fan for Range | 1 | 1 | 1 | 0.007 | 10 | 27 | 16 | V.C. | " |
| Cargo desiccator adsorption blower | 1 | 17 | 1 | 0.1 | 132 | 185 | 16 | " | " |
| Reactivation fan | 1 | 4 | 1 | 0.0145 | 35 | 55 | 12 | " | " |
| Combined univ. oil machine | 1 | 5 | 1 | 0.0145 | 42 | 55 | 34 | " | " |
| Drilling machine | 1 | 3 | 1 | 0.01 | 26 | 41 | 24 | " | " |
| Grinder | 1 | 1 | 1 | 0.007 | 10 | 27 | 12 | " | " |
| Lighting Crane Hoister & Travell | 1 | 7.5 | 1 | 0.0225 | 63.2 | 84 | 60 | " | " |
| Motor generator (Navigation inst.) | 2 | 7.5 | 1 | 0.03 | 63 | 84 | 24 | " | " |

NOTE.—Use Rpt. 43 Continuation Sheet if the above space is insufficient.

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.

MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.

S. Tanaka
Senior Managing Director

Electrical Contractors.

Date *5th Dec 1953*

COMPASSES.

Have the compasses been adjusted under working conditions... *yes*

MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.

S. Tanaka
Senior Managing Director.

Builder's Signature.

Date *5th Dec 1953*

Have the foregoing descriptions and schedules been verified and found correct... *yes*

Is this installation a duplicate of a previous case... *NO* If so, state name of vessel.

Plans. Are approved plans forwarded herewith... *NO* If not, state date of approval *16th July, 53*

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith... *yes*

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

The Electrical Installation of this ship has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.

Materials and the workmanship are sound and good.

The generators, motors etc. have been examined under full load working conditions to the Rules requirements and found satisfactory.

*Noted JS
30/3/54*

Total Capacity of Generators... *230 V* Kilowatts.

The amount of Fee ... *£152,000* When applied for, *FEB. 25 1954*

Travelling Expenses (if any) *See Rpt. 1* When received, *19*

S. B. Johnson
Surveyor to Lloyd's Register of Shipping.

Committee's Minute... *FRIDAY - 2 APR 1954*

Assigned *See Rpt 4 b.*

3m.1251.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

*x. dm
2.3.54
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