

-8 FEB 1934

Rpt. 13.

No. 8467.

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office -8 FEB 1934

Date of writing Report 8-1-34 19 When handed in at Local Office 13-1-34 19 Port of Kobe

No. in Survey held at Tama Date, First Survey 8-11-33 Last Survey 20-12-33 19  
Reg. Book. (Number of Visits.....8)

on the Steel Screw Motor Ship "AMAGISAN MARU" Tons { Gross 7624  
Net

Built at Tama By whom built Inum Mitsui Bureau Kisha Card No. 196 When built 1933

Owners Inum Mitsui Bureau Kisha Port belonging to Kobe

Electric Light Installation fitted by Inum Mitsui Bureau Kisha Contract No. 196 When fitted 1933

System of Distribution Two Wire Closed Circuit ✓

Pressure of supply for Lighting 220 volts, Heating 220 ✓ volts, Power 220 ✓ volts.

Direct or Alternating Current, Lighting Direct ✓ Power Direct ✓

If alternating current system, state frequency of periods per second -

Has 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 overload yes, are they compound wound yes

are they over compounded 5 per cent. yes, if not compound wound state distance between each generator -

Where more than one generator is fitted are they arranged to run in parallel yes, is an adjustable regulating resistance fitted in series with each shunt field yes

Are all terminals accessible and clearly marked yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited yes Are the lubricating arrangements of the generators as per Rule yes

Position of Generators Bottom platform, Starboard side

is the ventilation in way of the generators satisfactory yes, are they clear of all inflammable material yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators  
and ✓, are the generators protected from mechanical injury and damage from water, steam or oil yes

are their axis of rotation fore and aft yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes are the prime movers and their respective generators in metallic contact yes

Main Switch Boards, where placed Main engine room, bottom platform, fore end, port side

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard -

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes yes

are they protected from mechanical injury and damage from water, steam or oil yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards ✓ and ✓

are they constructed wholly of durable, incombustible non-absorbent materials yes (Bakelite), is all insulation of high dielectric strength and of permanently high insulation resistance yes, if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or micanite and the slab similarly insulated from its framework ✓, and is the frame effectively earthed yes Are the following fittings as per Rule, viz. :- spacing or shielding of live parts

yes, accessibility of all parts yes, absence of fuses on back of board yes, proportion of omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes, connections of switches yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Each generator

fitted with double pole switch, double pole circuit breaker with overload & reverse release & equalizer switch suitably connected as per Rule ✓

Instruments on main switchboard 6 ammeters 3 voltmeters ✓ synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

2 Volt meters & switch

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes



005740-005755-0017 1/2

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | RATED AT   |        |          |                | DRIVEN BY.    | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. |                      |
|---------------------------|--------|------------|--------|----------|----------------|---------------|--|----------------------|
|                           |        | Kilowatts. | Volts. | Ampères. | Revs. per Min. |               | Fuel Used.                                     | Flash Point of Fuel. |
| MAIN                      | 3      | 133        | 220    | 605      | 320            | Diesel Engine | About 150° F.                                  |                      |
| AUXILIARY                 |        |            |        |          |                | "             | "  |                      |
| EMERGENCY                 | 1      | 20         | 220    | 91       | 900            | "             | "  |                      |
| ROTARY TRANSFORMER        |        |            |        |          |                |               |  |                      |

LIGHTING AND HEATING CONDUCTORS.

| Ref. No. | DESCRIPTION.           | No. of Conductors. | Effective Area of each Conductor. Sq. Ins. | COMPOSITION OF STRAND. |           | Total Maximum Current. Ampères. | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|----------|------------------------|--------------------|--|------------------------|-----------|---------------------------------|--|----------------|----------------|
|          |                        |                    |  | No.                    | Diameter. |                                 |  |                |                |
|          | MAIN GENERATOR         | 2                  | 2545                                       | 250                    | 3/4 20    | 605                             | 156  | Paper          | Armoured       |
|          | AUXILIARY GENERATOR    |                    |  |                        |           |                                 |  |                |                |
|          | EMERGENCY GENERATOR    | 1                  | 112  | 110                    | "         | 91                              | 10   | Rubber         | "              |
|          | ROTARY TRANSFORMER     |                    |  |                        |           |                                 |  |                |                |
|          | AUXILIARY SWITCHBOARDS | 1                  | 2545                                       | 250                    | 20        | 227                             | 240  | Paper          | "              |
|          | ENGINE ROOM            | 1                  | 0071                                       | 7                      | 20        | 20                              | 180  | Rubber         | "              |
|          | BOILER ROOM            |                    |  |                        |           |                                 |  |                |                |
|          | ACCOMMODATION          | 1                  | 0153                                       | 15                     | 20        | 15                              | 230  | Rubber         | "              |
|          | EQUALISER CONNECTIONS  | 1                  | 2545                                       | 250                    | 20        | 203                             | 80   | Paper          | "              |
|          | WIRELESS               | 1                  | 0305                                       | 30                     | 20        | 25                              | 316  | Rubber         | Armoured       |
|          | SEARCHLIGHT            | 1                  | 0071                                       | 7                      | 20        | 9                               | 60   | "              | Lead           |
|          | MASTHEAD LIGHT         | 1                  | 0018                                       | 1                      | 18        | 0.2                             | 350  | "              | Armoured       |
|          | SIDE LIGHTS            | 1                  | "  | 1                      | "         | "                               | 50   | "              | "              |
|          | COMPASS LIGHTS         | 1                  | "  | 1                      | "         | 0.07                            | 20   | "              | "              |
|          | POOP LIGHTS            | 1                  | "  | 1                      | "         | 0.2                             | 500  | "              | "              |
|          | CARGO LIGHTS           |                    |  |                        |           |                                 |  |                |                |
|          | ARC LAMPS ROOM         | 1                  | 1527                                       | 150                    | 20        | 123                             | 168  | Paper          | "              |
|          | HEATERS BATH           | 1                  | 0611                                       | 60                     | 20        | 68                              | 168  | Rubber         | "              |

MOTOR CONDUCTORS.

| Ref. No. | DESCRIPTION.            | No. of Motors. | Effective Area of each Conductor. Sq. Ins. | COMPOSITION OF STRAND. |           | Total Maximum Current. Ampères. | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|----------|-------------------------|----------------|--|------------------------|-----------|---------------------------------|--|----------------|----------------|
|          |                         |                |  | No.                    | Diameter. |                                 |  |                |                |
|          | BALLAST PUMP, Sanitary  | 1              | 1527                                       | 150                    | 3/4 20    | 200                             | 236  | Paper          | Armoured       |
|          | MAIN BILGE LINE PUMPS   | 1              | 0611                                       | 60                     | 20        | 60                              | 56   | Rubber         | "              |
|          | GENERAL SERVICE PUMP    | 1              | 0611                                       | 60                     | 20        | 80                              | 50   | "              | "              |
|          | EMERGENCY BILGE PUMP    |                |  |                        |           |                                 |  |                |                |
|          | SANITARY PUMP           |                |  |                        |           |                                 |  |                |                |
|          | CIRC. SEA WATER PUMPS   | 2              | 1527                                       | 150                    | 20        | 160                             | 160  | Paper          | "              |
|          | CIRC. FRESH WATER PUMPS |                |  |                        |           |                                 |  |                |                |
|          | AIR COMPRESSOR          | 2              | 2545                                       | 250                    | 20        | 345                             | 164  | Paper          | "              |
|          | FRESH WATER PUMP        | 1              | 0032                                       | 1                      | 16        | 9                               | 80   | Rubber         | "              |
|          | ENGINE TURNING GEAR     | 1              | 0305                                       | 30                     | 20        | 48                              | 98   | "              | "              |
|          | ENGINE REVERSING GEAR   |                |  |                        |           |                                 |  |                |                |
|          | LUBRICATING OIL PUMPS   | 2              | 1527                                       | 150                    | 20        | 238                             | 160  | Paper          | "              |
|          | OIL FUEL TRANSFER PUMP  | 1              | 0611                                       | 60                     | 20        | 60                              | 70   | Rubber         | "              |
|          | WINDLASS                | 1              | 1527                                       | 150                    | 20        | 240                             | 400  | Paper          | "              |
|          | WINCHES, FORWARD        | 4              | 2036                                       | 250                    | 20        | 766                             | 225  | Rubber         | "              |
|          | WINCHES, AFT            | 4              | "  | "                      | "         | 726                             | 500  | Paper          | "              |
|          | STEERING GEAR           | 1              | 1527                                       | 150                    | 20        | 144                             | 660  | Paper          | "              |
|          | WORKSHOP MOTOR          | 1              | 1120                                       | 110                    | 20        | 104                             | 30   | Rubber         | "              |
|          | VENTILATING FANS        | 1              | 0032                                       | 1                      | 16        | 92                              | 90   | "              | "              |
|          | REFRIGERATOR COMPRESSOR | 1              | 0305                                       | 30                     | 20        | 32                              | 110  | "              | "              |
|          | " COILING PUMP          | 2              | 0032                                       | 1                      | 16        | 6                               | "  | "              | "              |
|          | " BRINE PUMP            | 2              | "  | "                      | "         | 6                               | "  | "              | "              |
|          | AUTO FREEZER            | 1              | 0071                                       | 7                      | 20        | 20                              | "  | "              | "              |
|          | " COILING PUMP          | 1              | 0032                                       | 1                      | 16        | 6                               | 100  | "              | "              |
|          | PURIFIER                | 1              | 0071                                       | 7                      | 20        | 10                              | 80   | "              | "              |
|          | PURIFIER PUMP (L.O.)    | 1              | "  | "                      | "         | 12                              | 240  | "              | "              |
|          | " " (F.O.)              | 1              | 0032                                       | 1                      | 16        | 8                               | 80   | "              | "              |
|          | " HEATER                | 1              | 1527                                       | 150                    | 20        | 160                             | 240  | Paper          | "              |

*Single, twin*  
**Insulation of Cables**, state type of cables, single or twin *multicore* are the cables insulated and protected as per Tables III or IV of the Rules *4/10*  
**Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load *6 Kell for mixed circuit*  
**Cable Sockets and other connections**, are the ends of all cables having a sectional area of *0.044* square inch and above provided with soldering-sockets *4/10*  
**Paper Insulated Cables**, If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *4/10*  
**Cable Runs**, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *4/10*  
**Support and Protection of Cables**, state how the cables are supported and protected *supported by brackets or steel hangers protected by iron covers in places. Cables on weather decks protected by water tight trunk*  
 If cables are run in wood casings, are the casings and caps secured by screws *4/10*, are the cap screws of brass *4/10*, are the cables run in separate grooves. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII *4/10*  
**Refrigerated Chambers**, if lights are fitted, are the cables and fittings in accordance with the special requirements *4/10*  
**Joints in Cables**, state if any, and how made, insulated, and protected *-*  
**Watertight Glands and Deck Tubes**, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *4/10*  
**Bushes in Beams and Non-watertight Positions**, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *4/10* state the material of which the bushes are made *lead*  
**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas  
 , are their connections made as per Rule  
**Alternative Lighting**, are the groups of lights in the propelling machinery space arranged as per Rule *4/10*  
**Emergency Supply**, state position and method of control of the emergency supply and how the generator is driven *Upper deck, port side engine room controlled by change over switch, driven by direct coupled diesel engine*  
**Navigation Lamps**, are these separately wired *4/10*, controlled by separate switch and separate fuses *4/10*  
 are the fuses double pole *4/10*, are the switches and fuses grouped in a position accessible only to the officers on watch *4/10*  
 has each navigation lamp an automatic indicator as per Rule *4/10*, are separate screens provided for the use of oil and electric side lights  
 are separate oil lanterns provided for the mast head lights and side lights  
**Fittings**, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight *4/10*  
 are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected *none*  
 are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *none*  
 , how are the cables led  
 where are the controlling switches situated  
**Incandescent**  
**Searchlight Lamps**, No. of *4* 500 Watt, whether fixed or portable *fixed*, are their fittings as per Rule *4/10*  
**Arc Lamps**, other than searchlight lamps, No. of *-*, are their live parts insulated from the frame or case, are their fittings as per Rule  
**Motors**, are their working parts readily accessible *4/10*, are the coils self-contained and readily removable for replacement *4/10*  
 are the brushes, brush holders, terminals and lubricating arrangements as per Rule *4/10*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *4/10*  
 are they protected from mechanical injury and damage from water, steam or oil *4/10* are their axis of rotation fore and aft *kept the*  
 if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type, if not of this type, state distance of the combustible material horizontally or vertically above the motors and  
**Control Gear and Resistances**, are the generator field and motor speed regulators, starters and controllers constructed as per Rule *4/10*  
**Lighting Conductors**, where lighting conductors are required, are these fitted as per Rule *4/10*  
**Ships carrying Oil having a Flash Point less than 150° F.** Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings *✓*  
 If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *✓*

All Conductors are of annealed copper conforming to British Standard Specification No. 7.  
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.  
 The foregoing is a correct description.

*J. Targui*

Electrical Engineers.

Date 1934

COMPASSES.

Distance between electric generators or motors and standard compass *64 ft for generator; 24 ft. for Wireless motor*  
 Distance between electric generators or motors and steering compass *72 ft. " " 32 ft. " " "*

The nearest cables to the compasses are as follows:—

A cable carrying *2* Amperes *6* feet from standard compass *14* feet from steering compass.  
 A cable carrying Amperes feet from standard compass feet from steering compass.  
 A cable carrying Amperes feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power *yes*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *yes*

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

*J. Targui*

Builder's Signature.

Date

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *M.S. "AZUMASAN MARU"*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The electrical installation of this vessel has been fitted under Special Survey in accordance with the Rules and approved plans. The materials and workmanship are good. On completion the installation was tested under full working conditions and found to be efficient and eligible, in my opinion, for the use of Electric Light*

*It is submitted that this vessel is eligible for THE RECORD*

*Elec. Light  
 9/2/34.*

*[Signature]*

Total Capacity of Generators *419* Kilowatts

The amount of Fee ... £ *62-19-3* When applied for, *8th Jan 1934*

Travelling Expenses (if any) £ : : When received, *12th Jan 1934*

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

Committee's Minute **TUE. 13 FEB 1934**

Assigned *Elec. Lt.*

11.9.21.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



© 2020

Lloyd's Register Foundation