

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

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Date of writing Report 13th Dec 1937 When handed in at Local Office 13th Dec 1937 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 26th Aug. Last Survey 30th Nov. 1937  
Reg. Book. (Number of Visits 10)

37122 on the Steel Single Screw Motor Vessel "ASAHA MARU" Tons { Gross 7,398.  
Net 4,328.

Built at Nagasaki By whom built Mitsubishi Jukogyo KK Yard No. 687 When built 1937

Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokyo.

Electric Light Installation fitted by Mitsubishi Jukogyo K.K. Nagasaki Contract No. - When fitted 1937

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two wire system.

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

Direct or Alternating Current, Lighting Direct Current Power Direct Current

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 rating 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 (Excepted Aux. Gen) 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

Position of Generators In Main Engine room.

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 axes 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 Fore Bulkhead in Main Engine room.

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, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes

and is the frame effectively earthed Yes Are the fittings as per Rule regarding: - 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

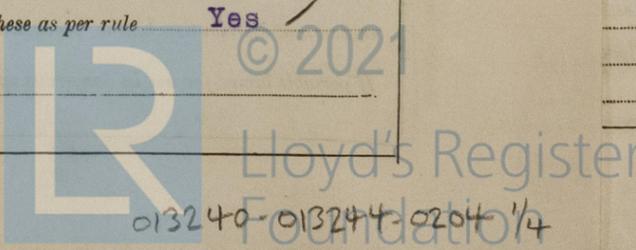
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches A double pole knife switch and a double pole circuit breaker with overload release, reverse current trip and time lag device and a single pole equalizer switch interlocked with the circuit breaker as per rule for each of 220 KW Main Dynamo, A d.p.knife switch and a d.p.circuit breaker with overload release, reverse current trip & time lag device for auxiliary dynamo, and d.p.knife switch and d.p.fuse or double pole circuit breaker for each of out going circuits.

Instruments on main switchboard 8 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 Lamps with fuses and switches.

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

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



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**Cables:** Single, twin, concentric, or multicore Single & multicore are the cables insulated and protected as per Tables IV, V, XI or XIII of the Rules Yes

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 11.16 volts for Power. 5.61 volts for Lighting.

**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes

**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 Yes

**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 Yes

**Support and Protection of Cables,** state how the cables are supported and protected Clamped on perforated or unperforated steel plates by metal clips and protected by metal covers or steel pipes where necessary.

If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screws of brass Yes, are the cables run in separate grooves Yes. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII Yes

**Refrigerated Chambers,** if lights are fitted, are the cables and fittings in accordance with the special requirements Yes

**Joints in Cables,** state if any, and how made, insulated, and protected By junction box as per Rule.

**Watertight Glands and Deck Tubes,** are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes

**Bushes in Beams and Non-watertight Partitions,** where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Lead

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas There is no earthing connection except for the wireless telegraph, sectional area of which is 25.60 square millimeter.

are their connections made as per Rule Yes

**Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule Yes

**Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven Yes

**Navigation Lamps,** are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes, are the switches and fuses grouped in a position accessible only to the officers on watch Yes, has each navigation lamp an automatic indicator as per Rule Yes

**Secondary Batteries,** are they constructed and fitted as per Rule Yes

**Fittings,** are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes, 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 Lamps in stores are protected by strong metal guards, over heavy glass, air tight, bowls.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Yes, how are the cables led Yes

where are the controlling switches situated Yes

**Searchlight Lamps,** No. of 4 projectors whether fixed or portable Portable, are their fittings as per Rule Yes (1 Suez canal type searchlight)

**Arc Lamps,** other than searchlight lamps, No. of 1, are their live parts insulated from the frame or case Yes, are their fittings as per Rule Yes

**Motors,** are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes, are they protected from mechanical injury and damage from water, steam or oil Yes are their axes of rotation fore and aft Yes, 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 Yes, if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes and Yes

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule Yes

**Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule Yes

**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 Yes

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office Yes

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | RATED AT   |        |       |                | DRIVEN BY                          | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. |                      |
|---------------------------|--------|------------|--------|-------|----------------|------------------------------------|--|----------------------|
|                           |        | Kilowatts. | Volts. | Amps. | Revs. per Min. |                                    | Fuel Used.                                     | Flash Point of Fuel. |
| MAIN                      | 3      | 220        | 225    | 978   | 360            | Diesel engine                      | Diesel oil                                     | above 150° F         |
| AUXILIARY                 | 1      | 30         | 225    | 153   | 650            | "                                  | "  | "                    |
| EMERGENCY                 |        |            |        |       |                |                                    |  |                      |
| ROTARY TRANSFORMER        | 2      | 5 KVA      | 250    | 20    | 2400           | DC Motor 8 HP 220V. 33A. 2400 RPM. |  |                      |
|                           | 1      | 1/2 "      | 100    | 2.5   | 3333           | " " 0.45 HP. 30V 18 A. 3333 RPM.   |  |                      |

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

| DESCRIPTION.           | CONDUCTORS.   |  | COMPOSITION OF STRAND. |           | TOTAL MAXIMUM CURRENT. |       | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|------------------------|---------------|--|------------------------|-----------|------------------------|-------|--|----------------|----------------|
|                        | No. per Pole. | Total Effective Area per Pole Sq. Ins. | No.                    | Diameter. | In Circuit.            | Rule. |  |                |                |
| MAIN GENERATOR         |               |  |                        |           |                        |       |  |                |                |
| EQUALISER CONNECTIONS  |               |  |                        |           |                        |       |  |                |                |
| AUXILIARY GENERATOR    |               |  |                        |           |                        |       |  |                |                |
| EMERGENCY GENERATOR    |               |  |                        |           |                        |       |  |                |                |
| ROTARY TRANSFORMER     |               |  |                        |           |                        |       |  |                |                |
| MOTOR GENERATOR        |               |  |                        |           |                        |       |  |                |                |
| ENGINE ROOM            |               |  |                        |           |                        |       |  |                |                |
| BOILER ROOM            |               |  |                        |           |                        |       |  |                |                |
| AUXILIARY SWITCHBOARDS |               |  |                        |           |                        |       |  |                |                |
| ACCOMMODATION          |               |  |                        |           |                        |       |  |                |                |
| WIRELESS               |               |  |                        |           |                        |       |  |                |                |
| SEARCHLIGHT            |               |  |                        |           |                        |       |  |                |                |
| MASTHEAD LIGHT         |               |  |                        |           |                        |       |  |                |                |
| SIDE LIGHTS            |               |  |                        |           |                        |       |  |                |                |
| COMPASS LIGHTS         |               |  |                        |           |                        |       |  |                |                |
| POOP LIGHTS            |               |  |                        |           |                        |       |  |                |                |
| CARGO LIGHTS           |               |  |                        |           |                        |       |  |                |                |
| ARC LAMPS              |               |  |                        |           |                        |       |  |                |                |
| HEATERS                |               |  |                        |           |                        |       |  |                |                |

MOTOR CONDUCTORS.

| DESCRIPTION.            | No. of Motors. | CONDUCTORS.   |  | COMPOSITION OF STRAND. |           | TOTAL MAXIMUM CURRENT. |       | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|-------------------------|----------------|---------------|--|------------------------|-----------|------------------------|-------|--|----------------|----------------|
|                         |                | No. Per Pole. | Total Effective Area per Pole Sq. Ins. | No.                    | Diameter. | In Circuit.            | Rule. |  |                |                |
| BALLAST PUMP            |                |               |  |                        |           |                        |       |  |                |                |
| MAIN BILGE LINE PUMPS   |                |               |  |                        |           |                        |       |  |                |                |
| GENERAL SERVICE PUMP    |                |               |  |                        |           |                        |       |  |                |                |
| EMERGENCY BILGE PUMP    |                |               |  |                        |           |                        |       |  |                |                |
| SANITARY PUMP           |                |               |  |                        |           |                        |       |  |                |                |
| CIRC. SEA WATER PUMPS   |                |               |  |                        |           |                        |       |  |                |                |
| CIRC. FRESH WATER PUMPS |                |               |  |                        |           |                        |       |  |                |                |
| AIR COMPRESSOR          |                |               |  |                        |           |                        |       |  |                |                |
| FRESH WATER PUMP        |                |               |  |                        |           |                        |       |  |                |                |
| ENGINE TURNING GEAR     |                |               |  |                        |           |                        |       |  |                |                |
| ENGINE REVERSING GEAR   |                |               |  |                        |           |                        |       |  |                |                |
| LUBRICATING OIL PUMPS   |                |               |  |                        |           |                        |       |  |                |                |
| OIL FUEL TRANSFER PUMP  |                |               |  |                        |           |                        |       |  |                |                |
| WINDLASS                |                |               |  |                        |           |                        |       |  |                |                |
| WINCHES, FORWARD        |                |               |  |                        |           |                        |       |  |                |                |
| WINCHES, AFT            |                |               |  |                        |           |                        |       |  |                |                |
| STEERING GEAR—          |                |               |  |                        |           |                        |       |  |                |                |
| (a) MOTOR GENERATOR     |                |               |  |                        |           |                        |       |  |                |                |
| (b) MAIN MOTOR          |                |               |  |                        |           |                        |       |  |                |                |
| WORKSHOP MOTOR          |                |               |  |                        |           |                        |       |  |                |                |
| VENTILATING FANS        |                |               |  |                        |           |                        |       |  |                |                |



|                             |   |      |     |      |      |      |     |        |          |
|-----------------------------|---|------|-----|------|------|------|-----|--------|----------|
| Flex.coard for cargo light  | 1 | 3.11 | 110 | 0.91 | 3.41 | 13.0 | 60  | Rubber | C.T & S. |
| " " " " Cluster             | 1 | "    | "   | "    | 1.09 | "    | 50  | "      | "        |
| Cargo cluster & Portable L. | 1 | 2.08 | 1   | 1.63 | 3.54 | 12.9 | 2   | "      | L.C.A.B. |
| Flex.coard for Portable L.  | 1 | 1.13 | 40  | 0.19 | 0.14 | 5.0  | 20  | "      | C.T & S. |
| Submain board S 5           | 1 | 9.45 | 7   | 1.30 | 16.9 | 37.0 | 140 | "      | L.C.A.S. |
| Cargo light & cluster       | 1 | 2.02 | 111 | 1.63 | 6.68 | 12.9 | 2   | "      | "        |
| Flex cord for cargo light   | 1 | 3.11 | 110 | 0.19 | 3.41 | 13.0 | 50  | "      | C.T & S  |
| " " " " cluster             | 1 | "    | "   | "    | 1.09 | "    | 50  | "      | "        |
| Cargo cluster & portable L. | 1 | 2.08 | 41  | 1.63 | 3.54 | 12.9 | 2   | "      | L.C.A.B. |
| Flex coard for portable L   | 1 | 1.13 | 40  | 0.19 | 0.14 | 5.0  | 20  | "      | C.T & S. |
| Navigation light            | 1 | 4.52 | 7   | 0.91 | 0.97 | 24.0 | 70  | "      | L.C.A.B. |
| Fore mast lamp              | 1 | 1.13 | 1   | 1.20 | 0.18 | 7.0  | 186 | "      | "        |
| Starboard side lamp         | 1 | "    | "   | "    | "    | "    | 40  | "      | "        |
| Port side lamp              | 1 | "    | "   | "    | "    | "    | 38  | "      | "        |
| Main mast lamp              | 1 | "    | "   | "    | "    | "    | 210 | "      | "        |
| Stern lamp                  | 1 | "    | "   | "    | "    | "    | 212 | "      | "        |
| Suze canal type searchlight | 1 | 38.7 | 19  | 1.63 | 60   | 83.0 | 190 | "      | "        |
| Dist.board D 10.            | 1 | 4.52 | 7   | 0.91 | 9.18 | 24.0 | 60  | "      | "        |

Note:- L.C.A & B. Lead covered, armoured & braided.  
 L.C & B. " " & braided.  
 C.T & S. Cab.type sheathed.

*Cell*  
 4.2.38

