

REPORT ON ELECTRIC LIGHTING INSTALLATION, No. 1174

Port of _____ Date of First Survey 4th Feby. Date of Last Survey 18th March 1918 No. of Visits 6
 No. in Reg. Book on the Iron or Steel s.s. "Tama Maru" Port belonging to Amagasaki
 Built at Nagasaki By whom Matsumoto Iron Works & Dockyard When built 1918
 Owners Tokio Kaisha Kabushiki Kaisha Owners' Address Tokio
 Yard No. 58 Electric Light Installation fitted by M. Asanuma When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One set of a shunt continuous current dynamo on the same bed plate with a vertical single cylinder engine.
 Capacity of Dynamo 70 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed On starboard side of engine room platform.
 Position of Main Switch Board On bulkhead aft of dynamo having switches to groups 19 to 31 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Two in fore part & two in after part of Bridge deck; two in fore part of upper deck; and three in engine room.
 If cut outs are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes.
 If vessel is wired on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes.
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 50 per cent over the normal current
 Are all cut outs fitted in easily accessible positions Yes. Are the fuses of standard dimensions Yes. If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes.
 Total number of lights provided for 4 Circuits arranged in the following groups:—

A	Bridge deck	lights each of	<u>8</u> <u>16</u> <u>7</u>	candle power requiring a total current of	<u>10.26</u>	Amperes
B	Fore deck	lights each of	<u>2</u> <u>5</u> <u>13</u>	candle power requiring a total current of	<u>16.3</u>	Amperes
C	after deck	lights each of	<u>8</u> <u>7</u> <u>10</u>	candle power requiring a total current of	<u>11.4</u>	Amperes
D	Engine room	lights each of	<u>—</u> <u>19</u> <u>—</u>	candle power requiring a total current of	<u>39.9</u>	Amperes
E	✓	lights each of	✓	candle power requiring a total current of	✓	Amperes
	Two Mast head light with <u>one double filament</u> lamps each of		<u>32</u>	candle power requiring a total current of	<u>1.12</u>	Amperes
	Two Side light with <u>do.</u> lamps each of		<u>32</u>	candle power requiring a total current of	<u>1.12</u>	Amperes
	<u>Six</u> Cargo lights of <u>4 x 32</u>			candle power, whether incandescent or are lights	<u>Incandescent</u>	

 If are lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed In chart room on navigating bridge.

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 37 wires, each 15 L.S.G. diameter, .1524 square inches total sectional area
 Branch cables carrying 16.3 Amperes, comprised of 1 wires, each 10 L.S.G. diameter, .0741 square inches total sectional area
 Branch cables carrying 10.26 Amperes, comprised of 1 wires, each 12 L.S.G. diameter, .0741 square inches total sectional area
 Leads to lamps carrying .56 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0078 square inches total sectional area
 Cargo light cables carrying 4.48 Amperes, comprised of 168 wires, each 38 L.S.G. diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wires and cables are composed of tinned copper insulated with pure india rubber vulcanizing india rubber coated tape, and the whole vulcanized together.
 Joints in cables, how made, insulated, and protected Joints in cable are made in brass pieces fitted on porcelain base distributing board in hard wood case, or extension box of porcelain base, and some joints in cast iron box soldered and insulated with pure rubber or rubber coated tape.
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes. Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes.
 Are there any joints in or branches from the cable leading from dynamo to main switch board No.
 How are the cables led through the ship, and how protected On the double wire distribution system, and cables are protected by lead covers.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Galvanized iron pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Galvanized iron pipes.*

What special protection has been provided for the cables near boiler casings *Galvanized iron pipes.*

What special protection has been provided for the cables in engine room *Galvanized iron pipes.*

How are cables carried through beams *Lead bushes* through bulkheads, &c. *Water-tight packing glands.*

How are cables carried through decks *Brass packing glands.*

Are any cables run through coal bunkers *Yes.* or cargo spaces *Yes.* or spaces which may be used for carrying cargo, stores, or baggage *Yes.*

If so, how are they protected *Galvanized iron pipes.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes.*

If so, how are the lamp fittings and cable terminals specially protected *By strong cast iron cover.*

Where are the main switches and cut outs for these lights fitted *On bridge deck passage.*

If in the spaces, how are they specially protected *In hard wood case.*

Are any switches or cut outs fitted in bunkers *No.*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *With fibre fork & connector.*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *✓*

How are the returns from the lamps connected to the hull *✓*

Are all the joints with the hull in accessible positions *✓*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas *✓*

Are any switches, cut outs, or joints of cables fitted in the pump room or companion *✓*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *✓*

The installation is *supplied with a voltmeter and* an amperemeter, fixed *on switch board*

The copper used is guaranteed to have a conductivity of *99.5* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile after 24 hours' immersion in seawater.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

M. Saanuma Electrical Engineers Date *18th March 1918*

COMPASSES.

Distance between dynamo or electric motors and standard compass *74 feet from dynamo*

Distance between dynamo or electric motors and steering compass *65 feet from dynamo*

The nearest cables to the compasses are as follows:—

A cable carrying <i>2.5</i> Amperes	<i>10</i> feet from standard compass	<i>12</i> feet from steering compass
A cable carrying <i>✓</i> Amperes	<i>✓</i> feet from standard compass	<i>✓</i> feet from steering compass
A cable carrying <i>✓</i> Amperes	<i>✓</i> feet from standard compass	<i>✓</i> feet from steering compass

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

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

Matsuo Iron work & Dockyard. Builder's Signature. Date *18th March 1918.*

GENERAL REMARKS.

This Electric Installation has been fitted in accordance with the Rules tested, and found satisfactory.

It is submitted that this vessel is reliable for THE RECORD. Elec. light. *J.W.D.* *W. Williams* Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute *TUE. MAY. 14. 1918*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 11.

