

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1143

Port of **NAGASAKI.**

Date of First Survey *9th Aug.* Date of Last Survey *11th Sept.* No. of Visits *6*
 No. in Reg. Book on the Iron or Steel *s.s. "Toyo Maru No. 2"* Port belonging to *Nagasaki*
 Built at *Nagasaki* By whom *Matsumoto Iron Works* When built *1917*
 Owners *S. Sawayama* Owners' Address *Nagasaki*
 Yard No. *57* Electric Light Installation fitted by *G. Ishii* When fitted *1917*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One set of a shunt continuous current dynamo on the same bed plate with a vertical 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

Total number of lights provided for *4 Circuits* arranged in the following groups:—

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

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

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

DESCRIPTION OF CABLES.

70 see above
 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, *.0018* square inches total sectional area
 Cargo light cables carrying *4.48* Amperes, comprised of *168* wires, each *38* L.S.G. diameter, *.005* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

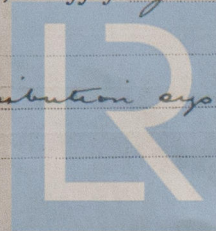
Wires and cables are composed of tinned copper insulated with pure india rubber, vulcanizing india rubber coated tape, and the whole vulcanized together.

Joints in cables, how made, insulated, and protected *Joints in cable are made in brass pieces fitted on porcelain bases, 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 *With the double wire distribution system, and cable are protected by lead cover.*



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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 *Iron casings*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Iron casings*

What special protection has been provided for the cables near boiler casings *Iron casings*

What special protection has been provided for the cables in engine room *Iron casings*

How are cables carried through beams *In iron casings* through bulkheads, &c. *Watertight packing gland.*

How are cables carried through decks *Iron deck tubes.*

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 *Iron casings*

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.

G. Ishii

Electrical Engineers

Date *28th Sept. 1917*

COMPASSES.

Distance between dynamo or electric motors and standard compass *72 ft. from dynamo*

Distance between dynamo or electric motors and steering compass *62*

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 <input checked="" type="checkbox"/> Amperes	<input checked="" type="checkbox"/> feet from standard compass	<input checked="" type="checkbox"/> feet from steering compass
A cable carrying <input checked="" type="checkbox"/> Amperes	<input checked="" type="checkbox"/> feet from standard compass	<input checked="" type="checkbox"/> 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.

For *Matsuura Iron Works & Dockyard, K. Sakai* Builder's Signature. Date *20th September 1917.*

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

A. S. Williamson Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minuta *FRI. 16 NOV. 1917*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.



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