

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1316

Port of *Nagasaki*. Date of First Survey *24th Nov 1920* Date of Last Survey *9th Feb 1921*. No. of Visits *5*
 No. in Reg. Book on the ~~main~~ Steel *S.S. "Nishiyama Maru"* Port belonging to *Koyagi*.
 Built at *Nagasaki* By whom *Matsumoto Iron Works (Nagasaki)* When built *1921*.
 Owners *Itaya Shosha Kaisha* Owners' Address *Osaka*
 Yard No. *59* Electric Light Installation fitted by *S. Hara*. When fitted *1921*.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One set of shunt continuous current dynamo on the same bedplate with a Dittical engine.

Capacity of Dynamo *115* Amperes at *110* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *On starboard side of engine room*. Whether single or double wire system is used *Double*.

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 and two in after part of bridge deck, two in fore part of upper deck, three in engine room.*

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits

Are the fuses of non-oxidizable metal *Yes* and constructed to fuse at an excess of *50* per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases *Yes*.

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

	lights each of	10 CP	16 CP	32 CP	candle power requiring a total current of	Amperes
A <i>Bridge deck</i>	8	16			5.00	Amperes
B <i>Fore deck</i>	2	5	13		16.3	Amperes
C <i>Aft deck</i>	6	7	10		11.4	Amperes
D <i>Engine room</i>		28			10.75	Amperes
E	lights each of					Amperes
<i>Two</i> Mast head light with filament lamps each of		27	32		2.24	Amperes
<i>Two</i> Side light with " lamps each of		27	32		2.24	Amperes
<i>Six</i> Cargo lights of		32				incandescent

If arc 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 *115* Amperes, comprised of *37* wires, each *15* S.W.G. diameter, *0.1544* square inches total sectional area

Branch cables carrying *16.3* Amperes, comprised of *1* wires, each *10* S.W.G. diameter, *.0141* square inches total sectional area

Branch cables carrying *10.26* Amperes, comprised of *1* wires, each *12* S.W.G. diameter, *.0141* square inches total sectional area

Leads to lamps carrying *56* Amperes, comprised of *1* wires, each *15* S.W.G. diameter, *.0018* square inches total sectional area

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

DESCRIPTION OF INSULATION, PROTECTION, ETC.

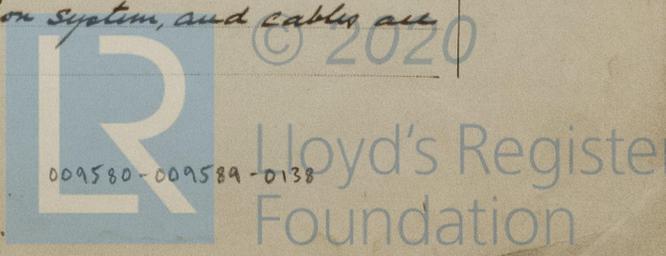
Wires and cables are composed of tinned copper insulated with pure india rubber, vulcanizing india rubber coated tape, and the whole vulcanized together.

Joints in cables, how made, insulated, and protected *Joints in cable are made in brass pieces fitted on porcelain bases, distributing board in shoji case, & 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, and the flux used not containing acids or other corrosive substances *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 cover.*



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 *Through galvanized iron tubes through bulkheads, &c. Water-tight packing flange.*

How are cables carried through decks *Galvanized 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

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 covers.*

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

If in the spaces, how are they specially protected *In ship's case*

Are any switches or fuses fitted in bunkers *No.*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *With fibre joints connected.*

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 ✓

Is the installation supplied with a voltmeter *Yes.* and with an amperemeter *Yes.* fixed *on switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

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

Are any switches, fuses, 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 copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

B. Nara

Electrical Engineers

Date

COMPASSES.

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

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

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.

K. Devaki's Makano Iron works, dock yard Builder's Signature. Date

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

U. Boylan.

Surveyor to Lloyd's Register of Shipping.

TUE. MAY. 3 1921

Committee's Minute

2in. 11.19—Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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