

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1095

Port of **NAGASAKI.** Date of First Survey *19th Sept.* Date of Last Survey *7th Nov. 1916* No. of Visits *5*
 No. in Reg. Book on the Iron or Steel *s.s. "Looli" ex "Yone Maru"* Port belonging to *Bergen*
 Built at **NAGASAKI.** By whom *Mitsubishi S. & C. Works* When built *1916*
 Owners *Willy C. Gilbert* Owners' Address *Bergen*
 Yard No. *2574* Electric Light Installation fitted by *Mitsubishi S. & C. Works* When fitted *1916*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One set of a compound wound continuous current dynamo on the same bedplate with a vertical engine.

Capacity of Dynamo *150* 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 28 to 80* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Two in fore part and three in after part of Bridge deck; two in fore part and two in after part of Upper deck; three in engine room; and one in Boiler 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 *No.*

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 *14 Circuits* arranged in the following groups:—

Group	Description	Number of Lights	Wattage	Candle Power	Total Current	Notes
A	Bridge deck Circuit	lights each of 4, 17, 36, 22	—	1 candle power	48 Amperes	8 ft. Mast, 25 ft. 33 ft. Mast, Morse
B	Fore "	lights each of 1, 13	—	15 candle power	30 Amperes	
C	after "	lights each of 2, 20	—	5 candle power	22 Amperes	
D	Engine room	lights each of — 52, 2	—	— candle power	50 Amperes	
E	lights each of	—	—	— candle power	Amperes	
	Two Mast head light with <i>one double</i> lamps each of	32	—	— candle power	1.12 Amperes	
	Two Side lights with " lamps each of	32	—	— candle power	1.12 Amperes	
	One Morse code signal lamp	4 @ 32	—	— candle power	1.26 Amperes	
	Seven Cargo lights of	4 @ 32	—	— candle power	Incandescent arc.	
	Two " " "	1200	—	— candle power	arc.	

If are lights, what protection is provided against fire, sparks, &c. *Protected by double globes.*

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

DESCRIPTION OF CABLES.

Category	Capacity	Wires	Diameter	Sectional Area
Main cable carrying	150 Amperes	37 wires, each	14 L.S.G. diameter, 0.1906	square inches total sectional area
Branch cables carrying	48 Amperes	19 wires, each	18 L.S.G. diameter, 0.0351	square inches total sectional area
Branch cables carrying	30 Amperes	7 wires, each	16 L.S.G. diameter, 0.0229	square inches total sectional area
Leads to lamps carrying	56 Amperes	1 wires, each	18 L.S.G. diameter, 0.0078	square inches total sectional area
Cargo light cables carrying	4.48 Amperes	168 wires, each	38 L.S.G. diameter, 0.003	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wires and cables are composed of tinned copper insulated with pure india rubber vulcanizing under rubber coated tape and the whole vulcanized together, then lead covered or lead covered & armoured with galvanized iron wires.

Joints in cables, how made, insulated, and protected *Joints in cables are made in ^{boxes} pieces fitted on porcelain bases in sub-main board and distributing board in teak case or extension boxes of porcelain bases and some joints in cast iron box are 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, except 3 in extension box in cargo space.*

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 cables are protected by lead cover, galvanized iron wire armoring, or galvanized iron pipe.*



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 *Protected by galvanized iron pipe, or galvanized iron wire armouring.*

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

What special protection has been provided for the cables near boiler casings *Galvanized iron wire armouring*

What special protection has been provided for the cables in engine room *Galvanized iron wires or galvanized iron pipe.*

How are cables carried through beams *Through lead bush.* through bulkheads, &c. *Watertight packing gland.*

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 *Yes.*

If so, how are they protected *By galvanized iron wire armouring, or 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 *Lamps are protected by strong cast iron covers.*

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 leak 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 & fibre connectors.*

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 *99.6* 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.

MITSUBISHI DOCKYARD & ENGINE WORKS

Shiota
General Manager. Electrical Engineers Date *28th Nov 1916*

COMPASSES.

Distance between dynamo or electric motors and standard compass *100 feet from wireless motor generator*

Distance between dynamo or electric motors and steering compass *130 feet from dynamo*
70 feet from wireless motor generator
115 feet from dynamo

The nearest cables to the compasses are as follows:—

A cable carrying <i>5.6</i> Amperes	<i>8</i> feet from standard compass	<i>10</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 _____ course in the case of the standard compass and *nil* degrees on _____ course in the case of the steering compass.

MITSUBISHI DOCKYARD & ENGINE WORKS

Shiota
General Manager. Builder's Signature. Date *28th Nov 1916*

GENERAL REMARKS.

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

W.D. ELEC. LIGHT. J.W.D. 2/1/17.
A.S. Williamson
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute *FRI. 5-JAN. 1917*

*H.D. 2 Com Turbines
and 1 Screw Shaft.*



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.