

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 847

Port of **NAGASAKI.** Date of First Survey 27th May Date of Last Survey 9th Sept., 1913. No. of Visits 12
 No. in Reg. Book on the ~~Iron~~ or Steel Triples s.s. "Katori Maru" Port belonging to Tokio
 Built at Nagasaki By whom Mitsui Bishi S. & C. Works When built 1913
 Owners Nippon Yusen Kaisha Owners' Address Tokio
 Yard No. 230. Electric Light Installation fitted by Mitsui Bishi Dockyard Engine Works When fitted 1913.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two sets of a Compound wound continuous current dynamo on the same bed plate with a vertical engine

Capacity of Dynamo 650 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed On the thrust recess.

Position of Main Switch Board After bulkhead of Engine room having switches to groups 35 to 158 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Boat deck:- one. Promenade deck:- six.

Bridge deck:- five. Poop deck:- one. Upper deck:- one forward, six amidships, and five aft.

2nd Deck:- one aft and one amidships, Engine room:- four. Boiler room:- one.

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 cessel 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 eight circuits arranged in the following groups:-

	8c.p. 16c.p.	25c.p.	32c.p.	50c.p.			
A Upper deck, fore circuit	1.	2.	29.	2.	1.	candle power requiring a total current of	16.61 Amperes
B " " middle " "	32.	5.	70.	-	3.	candle power requiring a total current of	43.61 Amperes
C " " after " "	2.	53.	36.	-	3.	candle power requiring a total current of	48.61 Amperes
F Bridge deck	32.	5.	86.	-	2.		47.94 "
D Promenade deck	22.	9.	129.	4.	-	candle power requiring a total current of	64.70 Amperes
G Engine room	-	129.	29.	-	-		83.26 "
E Fore cargo	2.	-	7.	24.	-	candle power requiring a total current of	55.96 Amperes
H after " "	5.	-	5.	24.	-		58.4 "
Two Mast head lights with filament lamps each of	32.					candle power requiring a total current of	2.24 Amperes
Two Side lights with do. lamps each of	32.					candle power requiring a total current of	2.24 Amperes
One Morse code flashing	6-5c.p.						" "
Twelve Cargo lights of	200					candle power, whether incandescent or arc lights	Incandescent
Two " "	12.00						are.

If arc 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 boat deck.

DESCRIPTION OF CABLES.

Main cable carrying 650 Amperes, comprised of 61 wires, each 9 L.S.G. diameter, 1.025 square inches total sectional area
 Branch cables carrying 83.26 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, 0.0624 square inches total sectional area
 Branch cables carrying 43.61 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, 0.0351 square inches total sectional area
 Leads to lamps carrying 56 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, 0.0032 square inches total sectional area
 Cargo light cables carrying 7 Amperes, comprised of 283 wires, each 38 L.S.G. diameter, 0.00792 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

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

Joints in cables, how made, insulated, and protected joints in cable are made in brass pieces in submain boards, distributing boards, & extension boxes, and some joints in cast iron boxes are soldered and insulated with pure india rubber or india 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 7 in extension boxes in cast iron covers in cargo spaces.

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, or galvanized iron wires, or galvanized iron pipes.

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 pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Protected by galvanized iron wires.*

What special protection has been provided for the cables near boiler casings *Protected by galvanized iron wires.*

What special protection has been provided for the cables in engine room *Protected by galvanized iron wires or galvanized iron pipes.*

How are cables carried through beams *Through teak ferrules* through bulkheads, &c. *Through water tight packing gland.*

How are cables carried through decks *Through galvanized iron deck tube*

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 pipes, or galvanized iron wires.*

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 or brass guards.*

Where are the main switches and cut outs for these lights fitted *Entrance of passage on upper deck.*

If in the spaces, how are they specially protected *Protected by water tight cast iron boxes.*

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 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 *two* amperemeters fixed *on switch board*

The copper used is guaranteed to have a conductivity of *100* 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.

MITSU BISHI DOCKYARD & ENGINE WORKS.

J. Shiro Electrical Engineers Date *20th Sept 1913*
General Manager

COMPASSES.

Distance between dynamo or electric motors and standard compass *740 ft. from main dynamo
105 ft. from Clayton's fire extinguishing & disinfecting apparatus
with 4 H.P. motor*

Distance between dynamo or electric motors and steering compass *118 ft. from main dynamo
75 ft. from 4 H.P. motor for Clayton's apparatus*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>144</i> Amperes	<i>8</i> feet from standard compass	<i>12</i> feet from steering compass
A cable carrying	<i>28</i> Amperes	<i>1</i> feet from standard compass	<i>1</i> 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 *no* degrees on *any* course in the case of the standard compass and *no* degrees on *any* course in the case of the steering compass.

MITSU BISHI DOCKYARD & ENGINE WORKS.

J. Shiro Builder's Signature. Date *20th Sept 1913*
General Manager

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.

J.W.D. 9/10/13
a.s. Williamson
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute *11. OCT. 10. 1913*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.



Lloyd's Register Foundation