

REPORT ON ELECTRIC LIGHTING INSTALLATION. *No. 1138*

Port of _____ Date of First Survey 8th June Date of Last Survey 9th July No. of Visits 7.
No. in _____ on the ~~Iron~~ or Steel S. S. "Calcutta Maru" Port belonging to Tokio
Reg. Book _____ Built at Nagasaki By whom Mitsubishi S. & C. Works When built 1917.
Owners Nippon Yusen Kaisha Owners' Address Tokio
Yard No. 266 Electric Light Installation fitted by Mitsubishi S. & C. Works When fitted 1917.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One set of compound wound continuous current dynamo, on the same
base plate with a vertical engine

Capacity of Dynamo 120 ✓ 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 86 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, one amidships, and one 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 4 Circuits arranged in the following groups:—
8 cp., 16 cp., 25 cp., 32 cp.

A Bridge deck Circuit lights each of 4, 20, 44, 12 candle power requiring a total current of 39.0 Amperes

B Fore " lights each of — 13 — 20 candle power requiring a total current of 31.7 Amperes

C after " lights each of — 3, 1, 24 candle power requiring a total current of 28.8 Amperes

D Engine room " lights each of — 50 — — candle power requiring a total current of 28.0 Amperes

E " lights each of " candle power requiring a total current of " Amperes

Two Mast head lights with ^{one double} ~~flameless~~ lamps each of 32 candle power requiring a total current of 1.12 Amperes

Two Side lights with " lamps each of 32 candle power requiring a total current of 1.12 Amperes

One Morse Code signal lamp 60 64 cp. 1.26

Two Cargo lights of 40 32 cp. 12.00 candle power, whether incandescent or are lights Incandescent

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

DESCRIPTION OF CABLES.

Main cable carrying	120	Amperes, comprised of	37	wires, each	15	L.S.G. diameter,	0.1544	square inches total sectional area
Branch cables carrying	38	Amperes, comprised of	19	wires, each	18	L.S.G. diameter,	0.0351	square inches total sectional area
Branch cables carrying	27	Amperes, comprised of	7	wires, each	16	L.S.G. diameter,	0.0229	square inches total sectional area
Leads to lamps carrying	56	Amperes, comprised of	1	wires, each	18	L.S.G. diameter,	0.0078	square inches total sectional area
Cargo light cables carrying	448	Amperes, comprised of	168	wires, each	38	L.S.G. diameter,	0.003	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

These cables 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 & armoured with galvanized iron wire.

Joints in cables, how made, insulated, and protected Joints in cables are made in ~~these~~ pieces fitted on porcelain bases in submain board, and distributing board in tank case or extension boxes of porcelain bases, and some joints in cast iron boxes are soldered and insulated with plate 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 one in extension box in extension cover in the cargo space.

Are there any joints in or branches from the cable leading from dynamo to main switch board No. the large space.

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 wire armouring, 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 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 pipe*

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 bushes* through bulkheads, &c. *Water tight 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 wires, or galvanized iron pipes.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No.*

If so, how are the lamp fittings and cable terminals specially protected *✓*

Where are the main switches and cut outs for these lights fitted *✓*

If in the spaces, how are they specially protected *✓*

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 *99.6* 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.

MATSUBISHI & CO.

[Signature]
General Manager

Electrical Engineers

Date *13th July 1917*

COMPASSES.

Distance between dynamo or electric motors and standard compass *103 ft. from dynamo.*
80 ft. from wireless motor generator.

Distance between dynamo or electric motors and steering compass *113 ft. from dynamo.*
90 ft. from wireless motor generator.

The nearest cables to the compasses are as follows:—

A cable carrying <i>5.6</i> Amperes	<i>7</i> feet from standard compass	<i>14</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.

MATSUBISHI & CO.

[Signature]
Builder's Signature

Date *13th July 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 Minute *TUE OCT 23 1917*

REPORT FORM No. 14.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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