

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 249

Port of Nagasaki Date of First Survey 1<sup>st</sup> May 1902 Date of Last Survey 19 June 1902 No. of Visits 10  
 No. in Reg. Book on the Iron or Steel S.S. "Daiya Maru" Port belonging to Nagasaki  
 Built at Nagasaki By whom The Mitsui Bishi D Y E. Wk When built 1902  
 Owners The Mitsui Bishi Goshi Kaisha Owners' Address Tokio  
 Yard No. 134 Electric Light Installation fitted by The Mitsui Bishi D Y E. Wk When fitted 1902

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

A combined set of a compound wound continuous current dynamo and a vertical single cylinder engine, both made by Clark Chapman & Co. Ltd

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

Where is Dynamo fixed in the part of starboard bunker, on the level of starting platform of Engine Room.

Position of Main Switch Board against bunker casing near dynamo having switches to groups 19 to 47 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Entrance to Fore castle, Pantry on Amidship, Starboard Bunker casing in Engine Room on the level of middle platform. Steering engine Room in poop.

One switch to each auxiliary board.

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 or sliding lamp circuit

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of not more than 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, on each board

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 119 arranged in the following groups :-

A Fore Circuit	- 9 lights each of 16 cp & 10 of 50 candle power requiring a total current of	20.04 Amperes
B Amidship "	- 21 lights each of 16 cp & 10 of 50 candle power requiring a total current of	30.12 Amperes
C Aft "	- 9 lights each of 16 cp & 10 of 50 candle power requiring a total current of	20.04 Amperes
D Engine Rm "	- 37 lights each of 16 cp & 10 of 50 candle power requiring a total current of	35.72 Amperes
E	lights each of _____ candle power requiring a total current of _____ Amperes	
One Mast head light with filament	32 candle power requiring a total current of	1.12 Amperes
one starboard side light with " lamps each of "	32 candle power requiring a total current of	1.12 Amperes
one port		
4 Cargo lights of	200 candle power, whether incandescent or arc lights	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

## DESCRIPTION OF CABLES.

Main cable carrying 105.92 Amperes, comprised of 37 wires, each 16 L.S.G. diameter, 0.1295 square inches total sectional area  
 Branch cables carrying 20.04 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, 0.0349 square inches total sectional area  
 Branch cables carrying 35.72 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, 0.0349 square inches total sectional area  
 Leads to lamps carrying 0.56 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, 0.0018 square inches total sectional area  
 Cargo light cables carrying 6 Amperes, comprised of 19 wires, each 2.2 L.S.G. diameter, 0.01168 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

The whole cables & wires used throughout the installation are covered with pure & vulcanized india rubber or india rubber coated tape, the whole vulcanized together, braided cotton & then covered preservative compound. The cable which are liable to be exposed to moisture or mechanical injury are protected with iron casings and which are liable to heat are armoured with galvanized iron wire and fastened to bulkhead or deck with clip & screws.

Joints in cables, how made, insulated, and protected. All joints are made in brass terminal pieces fitted in extension boxes, distributing boards, & sub-mainboards.

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, excepting one branch to pilot lamp.

How are the cables led through the ship, and how protected by double wired multiple switch board system & they are protected with wood casings, iron pipes or armoured with galvanized iron wires.

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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 are protected by galvanized iron pipes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat are armoured with galvanized iron wire

What special protection has been provided for the cables near boiler casings are armoured with galvanized iron wire

What special protection has been provided for the cables in engine room are carried through galv iron pipes or armoured gal iron wire

How are cables carried through beams through teak ferrules driven in through bulkheads, &c. through teak ferrules or brass water tight stuffing gland.

How are cables carried through decks through deck tubes made by galvanized iron pipe, internally lined with wood.

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 pipe carried alongside starboard frames

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 hook & connector in watertight C.S. box

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 \_\_\_\_\_

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 1,000 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.

A. Hamada Electrical Engineers

Date 12/8/02

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 78 ft.

Distance between dynamo or electric motors and steering compass 71 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>0.56</u>	Amperes	<u>for telegraph lamp</u>	feet from standard compass	<u>5</u>	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 \_\_\_\_\_

The maximum deviation due to electric currents, etc., was found to be 0 degrees on \_\_\_\_\_ course in the case of the standard compass and 0 degrees on \_\_\_\_\_ course in the case of the steering compass.

R. Midzutani Assist. G. Manager. Builder's Signature. Date 12th August 1902

**GENERAL REMARKS.**

It is submitted that this installation appears to be satisfactory.

A. L. Jones

Surveyor to Lloyd's Register of British and Foreign Shipping. 25.9.02

Committee's Minute \_\_\_\_\_

REPORT FORM No. 13.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

