

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 25147

Port of Glasgow Date of First Survey 16 March Date of Last Survey 19 April No. of Visits 6  
 No. in Reg. Book on the Iron or Steel S/S Chikuzen Maru Port belonging to \_\_\_\_\_  
 Built at Meadowside By whom J & W Henderson When built \_\_\_\_\_  
 Owners Nippon Yusen Kaisha Owners' Address Tokio  
 Yard No. \_\_\_\_\_ Electric Light Installation fitted by W. C. Martin & Co When fitted 1907

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single Cylinder double acting steam engine direct coupled to Compound wound Multipolar Dynamo with carbon brushes.

Capacity of Dynamo 150 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Valve Recess in Engine Room Whether single or double wire system is used double

Position of Main Switch Board beside Dynamo having switches to groups A, B, C, D, E, F of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Engine room 1-6, 1-4, Switchboard 1-4, Starboard Alleyway 1-4. Chartroom 1-4.

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 Yes

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 174 arranged in the following groups:—

A	<u>1st Class</u>	<u>33</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>18</u>	Amperes
B	<u>Fore &amp; Aft</u>	<u>47</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>26.5</u>	Amperes
C	<u>Engine &amp; Office</u>	<u>32</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>17.5</u>	Amperes
D	<u>Holds</u>	<u>14</u> lights each of	<u>32</u>	candle power requiring a total current of	<u>16</u>	Amperes
E	<u>Engine Room</u>	<u>26</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>14.5</u>	Amperes
	<u>2 Mast head lights with</u>	<u>2</u> lamps, each of	<u>32</u>	candle power requiring a total current of	<u>2.2</u>	Amperes
	<u>2 Side lights with</u>	<u>2</u> lamps, each of	<u>32</u>	candle power requiring a total current of	<u>2.2</u>	Amperes
	<u>4 Cargo lights of</u>	<u>4 lights each</u>	<u>32</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. No Arc Lamps

Where are the switches controlling the masthead and side lights placed In Chart room

## DESCRIPTION OF CABLES.

Main cable carrying 97 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .1838 square inches total sectional area

Branch cables carrying 26.5 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .033 square inches total sectional area

Branch cables carrying 17.5 Amperes, comprised of 19 wires, each 20 L.S.G. diameter, .019 square inches total sectional area

Leads to lamps carrying 2 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .0032 square inches total sectional area

Cargo light cables carrying 4 Amperes, comprised of 108 wires, each .006 L.S.G. diameter, \_\_\_\_\_ square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

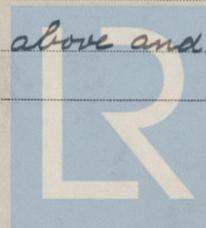
H. C. Copper wire tinned, insulated with pure and vulcanized rubber and tape, the whole vulcanized together, braided and compounded and sheathed in lead or steel armour.

Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux in joints 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 \_\_\_\_\_

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 Protected as described above and clipped openly to wood or iron work of ship.



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible Yes, except when cargo in tweendeck.  
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead, or Steel Armour, or Iron tubes.  
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat steel armour  
 What special protection has been provided for the cables near boiler casings steel armour  
 What special protection has been provided for the cables in engine room steel armour.  
 How are cables carried through beams Insulating bushes if unarmoured through bulkheads, &c. W.T. Glands.  
 How are cables carried through decks Metal tubes fitted watertight to deck.  
 Are any cables run through coal bunkers No or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes  
 If so, how are they protected Armoured.  
 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 Strong Iron Covers.  
 Where are the main switches and cut outs for these lights fitted at Switchboard.  
 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 fibre forks.  
 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 \_\_\_\_\_  
 The installation is at present supplied with a voltmeter and also with an amperemeter, fixed on switchboard

**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 copper used is guaranteed to have a conductivity of 98 per cent. that of pure copper.  
 Insulation of cables is guaranteed to have a resistance of not less than 2,000 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.

W. C. Martin & Co Electrical Engineers Date 27<sup>th</sup> April 1904

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 50 ft.  
 Distance between dynamo or electric motors and steering compass 50 ft.  
 The nearest cables to the compasses are as follows:—  
 A cable carrying .55 Amperes 50 feet from standard compass 50 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 a certain course in the case of the standard compass and nil degrees on the same course in the case of the steering compass.

DAVID & WILLIAM HENDERSON & CO., LIMITED

Ed. Henderson Director Builder's Signature. Date 30<sup>th</sup> April 1904

**GENERAL REMARKS.**

Examined when completed & found satisfactory

[Signature]

A. J. Thomas.

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

Committee's Minute

Glasgow 13 MAY 1907  
Revised Electric Light  
Board

It is submitted that the Record Elec. Light entered in the Reg. Books.

Lloyd's Register Foundation

14.5.07

THE SURVIVORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.-50,34.