

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 32426

Port of Glasgow Date of First Survey 26-8-12 Date of Last Survey 4-3-13 No. of Visits 25
 No. in on the ~~Iron~~ or Steel Triple's Niagara Port belonging to London
 Reg. Book 11 Supp Built at Clydebank By whom John Brown & Co Ltd When built 1913
 Owners Canadian Australasian Royal Mail Line Owners' Address _____
 Yard No. 415 Electric Light Installation fitted by John Brown & Co Ltd When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

4 Vertical Double acting enclosed 2 crank compound Engines, H.P. cylinder $8\frac{1}{2}$ " dia., L.P. cylinder $13 \times 7\frac{1}{2}$ " stroke, delivering 75 KW at 500 Rev. steam at 120 lbs \square in., exhausting into condenser or atmosphere. 6 pole compound dynamo
 Capacity of Dynamo 750 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed In Engine Room, on a platform at main Deck Whether single or double wire system is used Double wiring
 Position of Main Switch Board In Engine Room, Main Deck having switches to groups A B C D E F G H I K of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each None fitted except the dynamo emergency switchboard at Post Deck.
Fuse boxes and fused distribution boxes fitted in accessible positions through out ship

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 _____
 Are all cut outs fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses _____
 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 2000 arranged in the following groups:—

Group	Description	Number of Lights	Candle Power	Amperes
A	lights each of _____	_____	_____	_____
B	lights each of _____	_____	_____	_____
C	lights each of _____	_____	_____	_____
D	lights each of _____	_____	_____	_____
E	lights each of _____	_____	_____	_____
	<u>2</u> Mast head light with <u>2</u> $\frac{3}{4}$ lamps each of <u>32</u>	<u>2</u>	<u>32</u>	<u>1.1</u> Amperes
	<u>2</u> Side light with <u>2</u> $\frac{3}{4}$ lamps each of <u>32</u>	<u>2</u>	<u>32</u>	<u>1.1</u> Amperes
	<u>1</u> Stern light with <u>1</u> $\frac{3}{4}$ lamp of <u>32</u>	<u>1</u>	<u>32</u>	<u>1.1</u> Amperes
	<u>58</u> lights & <u>13</u> $\frac{3}{4}$ <u>4</u> $\frac{3}{4}$ <u>1</u> $\frac{3}{4}$ cargo lights of <u>16</u>	<u>58</u>	<u>16</u>	<u>1.1</u> Amperes

See sheet attached

If arc lights, what protection is provided against fire, sparks, &c. _____

Where are the switches controlling the masthead and side lights placed in Indicator in Chart House

DESCRIPTION OF CABLES.

Old Rules -
 Main cable carrying 750 Amperes, comprised of 91 wires, each .108" L.S.G. diameter, .08" square inches total sectional area
 Branch cables carrying 70 Amperes, comprised of 19 wires, each .14 L.S.G. diameter, .094" square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 7 wires, each .18 L.S.G. diameter, .0125" square inches total sectional area
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each .16 L.S.G. diameter, .0032" square inches total sectional area
 Cargo light cables carrying 4-8 Amperes, comprised of 7 wires, each .20 L.S.G. diameter, .007" square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors are insulated with pure and vulcanising India rubber, Taped, the whole vulcanised together braided and compounded overall, to 600 megohm insulation grade. Where required the cable is insulated as above and lead covered, armoured and braided over the insulation

Joints in cables, how made, insulated, and protected No joints in inaccessible position. Joints where made have the conductors thoroughly united by twisting and soldering cold. The conductors being insulated with a lapping of pure rubber tape, protected by impregnated linen tape overall.

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 Yes

How are the cables led through the ship, and how protected Vulcanised cables run in casing, armoured cables clipped to bulkheads with galvaneised iron clips.



Installation also comprises one petrol driven 20 H.P. emergency dynamo & switchboard at the Post Deck

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 Lead covered cable in keel casing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Cables run in teak wood casing

What special protection has been provided for the cables near boiler casings Armoured cables used

What special protection has been provided for the cables in engine room Armoured & lead covered cables through bulkheads, &c. through packed screwed glands

How are cables carried through beams through wood bushes

How are cables carried through decks Watertight lead deck tubes

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 Cables are armoured with galv. 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 In special cast iron W.T. hold fitting with hinged covers

Where are the main switches and cut outs for these lights fitted In main deck and shelter deck passages

If in the spaces, how are they specially protected None in the spaces

Are any switches or cut outs fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed How fixed

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel How fixed

How are the returns from the lamps connected to the installation is supplied with 3 voltmeters and 5 amperemeters fixed at Main and Emergency Deckboards

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 Yes

Are any switches, cut outs, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas How 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 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.

John Brown & Company, Limited.

J. J. Henderson Electrical Engineers Date 4th March 1913

COMPASSES.

Distance between dynamo or electric motors and standard compass from dynamo 185 feet. From nearest motor 20 feet.

Distance between dynamo or electric motors and steering compass " " 180 feet " " " 18 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>3.5</u> Amperes	<u>10</u> feet from standard compass	<u>7</u> feet from steering compass
A cable carrying	<u>.6</u> Amperes	<u>into into</u> feet from standard compass	<u>and into</u> 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.

J. J. Henderson Builder's Signature. Date 4th March 1913

GENERAL REMARKS. This installation has been fitted in accordance with the rules and has been seen working satisfactorily.

It is submitted that this vessel is eligible for THE RECORD Elec. light.

J. W. D. 14/3/13. Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute GLASGOW 11 MAR. 1913

Elec. light.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



2 M M
10/3/13
[Signature]