

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16909

Port of Glasgow Date of First Survey ✓ Date of Last Survey ✓ No. of Visits ✓
 No. in Reg. Book on the Iron or Steel S. S. Eastern Port belonging to London
 Built at Govan, Glasgow By whom Robert Napier & Sons Ltd. When built 1899
 Owners Eastern & Australian S.S. Co. Ltd. Owners' Address _____
 Yard No. 465 Electric Light Installation fitted by THE BRUSH ELECTRIC ENGINEERING COMPANY, LIMITED When fitted 1899

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 "Brush" engines direct coupled to 2 "Tutoria" dynamos running at 250 Revs. per min.

Capacity of Dynamo 200 Amperes at 100 Volts, whether continuous or alternating current direct.

Where is Dynamo fixed Alongside main engines.

Position of Main Switch Board Beside dynamo having switches to groups 10 Main groups of lights, &c., as below

Positions of auxiliary ^{fuse} switch boards and numbers of ^{fuses} switches on each N^o 1. Forecastle - 8 way. - N^o 2. Wheel House 6 way. - N^o 3 & 4. 1st Class Passenger corridor - 12 way. - N^o 5 & 6. Engineers Mess - 6 way. - N^o 7. Engine Room 8 way. - N^o 8 & 9. European Storage - 12 way. N^o 10. Main switch - Searchlight

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 no reduction 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 _____

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

Total number of lights provided for _____ arranged in the following groups:—

A Forecastle	30	lights each of	16	candle power requiring a total current of	15	Amperes
B Staring Room	11	lights each of	16	candle power requiring a total current of	6	Amperes
C 1 st Class	75	lights each of	16	candle power requiring a total current of	38	Amperes
D Engineers Mess	42	lights each of	16	candle power requiring a total current of	21	Amperes
E Engine room	41	lights each of	16	candle power requiring a total current of	21	Amperes
European Storage	61	lights each of	16	candle power requiring a total current of	31	Amperes
2 Mast head light with	1	lamps each of	32	candle power requiring a total current of	2	Amperes
2 Side light with	1	lamps each of	32	candle power requiring a total current of	2	Amperes

4 Cargo lights of 8 lamps of 16 candle power, whether incandescent or arc lights Incandescent.

If are lights, what protection is provided against fire, sparks, &c. 1 Admiralty type projector, taking a current of 100 A & enclosed in metal case.

Where are the switches controlling the masthead and side lights placed On board in steering house.

DESCRIPTION OF CABLES.

Main cable carrying	150	Amperes, comprised of	37	wires, each	15	L.S.G. diameter,	.15441	square inches total sectional area
Branch cables carrying	45	Amperes, comprised of	19	wires, each	14	L.S.G. diameter,	.04783	square inches total sectional area
Branch cables carrying	22	Amperes, comprised of	7	wires, each	16	L.S.G. diameter,	.02299	square inches total sectional area
Leads to lamps carrying	3	Amperes, comprised of	3	wires, each	20	L.S.G. diameter,	.0031	square inches total sectional area
Cargo light cables carrying	5	Amperes, comprised of	1/2	wires, each		L.S.G. diameter,		square inches total sectional area

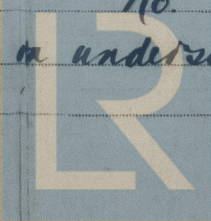
DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductors covered, first with a layer of pure Para Rubber, then with two coats of Vulcanizing India Rubber, & finally covered with an India Rubber coated Tape, & the whole vulcanized, - An insulation resis of 600 Meghms and braided joints in cables, how made, insulated, and protected soldered with resin, insulated with pure rubber tape, and protected with

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

How are the cables led through the ship, and how protected In wood casing on underside of Decks.



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 Casing & conductors
Well coated with shellac

What special protection has been provided for the cables near galley or oil lamps or other sources of heat

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

What special protection has been provided for the cables in engine room } Run in iron piping.

How are cables carried through beams Holes insulated with wood through bulkheads, &c.

How are cables carried through decks in water-tight glands.

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 Heavy casing

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Hand lamps in holds

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

Where are the main switches and cut outs for these lights fitted at Distribution box

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers

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

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 also supplied with 2 voltmeters and two amperemeters fixed on switch-board in Engine Room.

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 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.

THE BRUSH ELECTRICAL ENGINEERING COMPANY, LIMITED Edinburgh Electrical Engineers Date 5 APR 99

COMPASSES.

Distance between dynamo or electric motors and standard compass } 120 feet.

Distance between dynamo or electric motors and steering compass }

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>100.</u>	<u>18</u>	<u>7</u>	<u>7</u>
<u>9</u>	<u>9</u>	<u>8</u>	<u>8</u>

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 no course in the case of the standard compass and no degrees on no course in the case of the steering compass.

Builder's Signature. Date 6th April 1899

GENERAL REMARKS.

John McAnulten.
The Electric Lighting of this vessel has been satisfactorily carried out.
The materials & workmanship are good & the installation has been tried under
full power.
H Gordon Smith.

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

Committee's Minute

This installation appears to be
fitted in accordance with the rule

Lloyd's Register
Foundation
245799

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.