

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2843.

Port of Glasgow Date of First Survey 18 Aug Date of Last Survey 12th Sept No. of Visits 12  
 No. in on the Iron or Steel S.S. Lanrock Port belonging to London  
 Reg. Book 17 Sub Built at Troon By whom Messrs The Ailsa Shipbuilding Co When built 1909  
 Owner General Steam Navigation Co Owners' Address London  
 Yard No. 222 Electric Light Installation fitted by J. Charters When fitted 1909

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open type single cylinder vertical engine coupled direct to Compound dynamo.

Capacity of Dynamo 60 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine Rm. Bottom platform 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. of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Chartroom 7 switches, Engine Rm 13 Sws.

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 tin and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs fitted in easily accessible positions yes Are the fuses of standard dimensions wire 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 93-16 + 3-32 CP arranged in the following groups:—

A Engine Rm	19	lights each of	16	candle power requiring a total current of	14	Amperes
B Clusters	18	lights each of	16	candle power requiring a total current of	10	Amperes
C Bridge Mk	13	lights each of	16	candle power requiring a total current of	14	Amperes
D aft Accomd.	18	lights each of	16	candle power requiring a total current of	10	Amperes
E Holds & Gun Mk	22	lights each of	16	candle power requiring a total current of	42	Amperes
1 Mast head light with	1	lamp each of	32	candle power requiring a total current of	1.1	Amperes
2 Side light with	1	lamp each of	32	candle power requiring a total current of	2.2	Amperes
3 Cargo lights of			80	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. in engine room

Where are the switches controlling the masthead and side lights placed in chartroom

## DESCRIPTION OF CABLES.

Main cable carrying 54 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .060 square inches total sectional area  
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0124 square inches total sectional area  
 Branch cables carrying 11 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0124 square inches total sectional area  
 Leads to lamps carrying .56 Amperes, comprised of 3 wires, each 20 L.S.G. diameter, .0029 square inches total sectional area  
 Cargo light cables carrying 2.8 Amperes, comprised of 136 wires, each .0029 L.S.G. diameter, .005 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

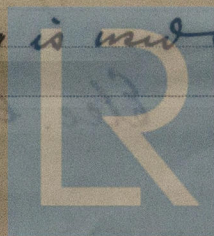
Pure vulcanized India Rubber, I.R. Coated tape, two wires laid up, taped + lead covered in rooms & armoured elsewhere.

Joints in cables, how made, insulated, and protected none

Are all the joints of cables thoroughly soldered, resin only having been used as a flux none Are all joints in inaccessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage none

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 Lead covered wiring is used in rooms &c and armoured wire elsewhere.



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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 armouring

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

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

What special protection has been provided for the cables in engine room Armour

How are cables carried through beams arm'd. cable. through bulkheads, &c. in W.T. Stands.

How are cables carried through decks Deck tubes W.T.

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 Armour.

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 Cast covers.

Where are the main switches and cut outs for these lights fitted in Engine room.

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 Double.

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

How are the returns from the lamps connected to the hull ✓

Are all the joints with the hull in accessible positions ✓

The installation is — supplied with a voltmeter and — an amperemeter, fixed on Steward.

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 100 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2500 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.

J. Charters, Glasgow Electrical Engineers

Date 29th Sept 1909

COMPASSES.

Distance between dynamo or electric motors and standard compass 150 feet.

Distance between dynamo or electric motors and steering compass do

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>10</u>	<u>16</u>	<u>✓</u>	<u>✓</u>
<u>.5</u>	<u>in</u>	<u>✓</u>	<u>✓</u>
<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</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 nil degrees on — course in the case of the standard compass and nil degrees on — course in the case of the steering compass.

AILBA SHIPBUILDING CO., LIMITED

Wm. D. Paterson Managing Director

Builder's Signature.

Date

6th Oct 1909

GENERAL REMARKS.

The electric lighting installation of this vessel has been fitted in accordance with the rules and satisfactorily tested under full power

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

Committee's Minute GLASGOW 12 OCT. 1909

Elec. light.

arm'd



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