

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15901

Port of Greenock Date of First Survey 22<sup>nd</sup> July 1910 Date of Last Survey 22<sup>nd</sup> Sept 1910 No. of Visits 17  
 No. in on the Iron or Steel S.S. "HIGHLAND GLEN" Port belonging to London  
 Reg. Book Built at Port Glasgow By whom Russell & Co When built 1910  
 Owners Adrian Line (London) Ltd Owners' Address  
 Yard No. 616 Electric Light Installation fitted by James Scott Ltd When fitted 1910

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine - Single cylinder, open front, 100 lbs steam pressure, 350 R.P.M.  
 Dynamo - Direct coupled, 6 Polar, Ventilated armature.  
 Capacity of Dynamo 275 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine Room, Bottom Platform Whether single or double wire system is used Double wires  
 Position of Main Switch Board On side of E.R. Stairs " " having switches to groups Gen. Circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Saloon Alley, Port and Starboard 1 main switch in each box. Saloon switchboard 14 Sw's. Smoke Room. 6 Sw's. Engine Room Subboard 9 Sw's. Navigation Board Chart Rm. 9 switches. Forecastle Entrance 4 Sw's. Recreation Room. 6 Sw's.  
 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 Porcelain Bridges 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 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 Information Cards  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases All mounted on Porcelain bases  
 Total number of lights provided for 445 lamps arranged in the following groups :-  

Group	Description	Number of Lights	Candle Power	Current (Amperes)
A	Saloon Starboard	20	16 CP	4 5/8
B	Saloon Forward	40	16	20 1/2
C	Engine Room	63	16	36 1/2
D	Navigation	5	32	5 3/4
E	Cargo	30	16	1 1/3
	2 Mast head lights with 2 lamps each of	4	32	2
	2 Side lights with 2 lamps each of	4	32	2
	5 Cluster Cargo lights of	6 - 16		incandescent also two are lights

  
 If are lights, what protection is provided against fire, sparks, &c. Enclosed are. also glass lantern.

Where are the switches controlling the masthead and side lights placed Forecastle Room

## DESCRIPTION OF CABLES.

Cable Type	Amperes	Wires	Each Wire L.S.G. diameter	Total sectional area
Main cable carrying	240	37	12	308 square inches
Branch cables carrying	45	19	17	046 square inches
Branch cables carrying	28 1/2	19	18	034 square inches
Leads to lamps carrying	4	7	22	004 square inches
Cargo light cables carrying	25	19	18	034 square inches

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Raw and vulcanized india rubbers, taped, and vulcanized together. Braided and Compound and lead covered  
Lead cov. and armoured  
 Joints in cables, how made, insulated, and protected No joints. Connections made in section boxes on slate bases, with brass terminals bolted on brass studs.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 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 Either - Vulcanised wire in heavy galv. iron pipe. Engine and Boiler space. Lead cov. and armoured. Passenger accom. Lead covered on wood grounds



DESCRIPTION OF INSULATION, PROTECTION, ETC. continued.

Are they in places always accessible Readily accessible

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Heavy galv iron pipe, and lead covered and armoured.

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

What special protection has been provided for the cables near boiler casings Lead covered and armoured

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

How are cables carried through beams Solid fibre tube bushes 1/2 inch through bulkheads, &c. brass glands

How are cables carried through decks Galv deck pipes bushed with fibre tube.

Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected Galv. iron piping only provision and details shown

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 Cast iron connection boxes.

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 0 - 130 supplied with a voltmeter and 0 - 300 an amperemeter, fixed on Main Sw. Board

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 2,500 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.

JAMES SCOTT LIMITED.

*James Scott*  
Director.

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass Dynamo 150 ft. 1-2 HP motor. 100 ft.

Distance between dynamo or electric motors and steering compass ditto ditto

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>6 1/2</u>	<u>24</u>	<u>22</u>	<u>22</u>
<u>1/4</u>	<u>1</u>	<u>1</u>	<u>1</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 — degrees on — course in the case of the standard compass and — degrees on — course in the case of the steering compass.

*James Scott*  
Director.

Builder's Signature.

Date

30th Sept

GENERAL REMARKS.

The materials and workmanship are good. When completed the installation was tested and worked satisfactorily.

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

Elec. light.

*Wm. Austin*

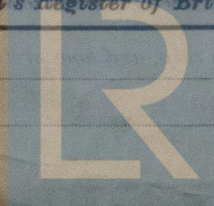
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

GLASGOW

25 OCT. 1910

Elec. Light



Lloyd's Register Foundation