

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15717

Port of Greenock. Date of First Survey 11<sup>th</sup> Dec. 1909. Date of Last Survey 7<sup>th</sup> Feb. 1910. No. of Visits 15.  
 No. in Reg. Book on the Iron or Steel St. Valdivia. Port belonging to Glasgow.  
 Built at Port Glasgow. By whom Russell 1624. When built 1909.  
 Owners Gov. Harrison 1624. Owners' Address Glasgow.  
 Yard No. 604 Electric Light Installation fitted by J. J. & M. J. McKay. When fitted 1910.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Bellevue forced lubrication motor  
Coupled to Lawrence semi-portable D.C. Amp. motor dynamo  
 Capacity of Dynamo 115 Amperes at 100 Volts, whether continuous or alternating current  
 Where is Dynamo fixed on starting platform (starboard side) Whether single or double wire system is used Double  
 Position of Main Switch Board Beside dynamo having switches to groups as below of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each None

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  
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 25% 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 164 arranged in the following groups:—

A	Officers 20	lights each of 16 CP	candle power requiring a total current of 12	Amperes
B	Navigation 8	lights each of 5032P 308 CP.	candle power requiring a total current of 4.8	Amperes
C	Saloon 27	lights each of 16 CP	candle power requiring a total current of 16.2	Amperes
D	Crew 15	lights each of 16 CP	candle power requiring a total current of 9.0	Amperes
E	Engines 27	lights each of 16 CP.	candle power requiring a total current of 16.2	Amperes
	Cargo 64	lights each of 16 CP	candle power requiring a total current of 16.2	Amperes
	2 Mast head light with 2 lamps each of 32 CP	lights each of 32 CP	candle power requiring a total current of Cargo 20	Amperes
	2 Side light with 2 lamps each of 32 CP	lights each of 32 CP	candle power requiring a total current of Arc Lamp 10	Amperes
	62 Cargo lights of 16 CP & 2 arcs	lights each of 16 CP & 2 arcs	candle power, whether incandescent or arc lights	both

If arc lights, what protection is provided against fire, sparks, &c. Yes. special lanterns  
 Where are the switches controlling the masthead and side lights placed In Chart Room

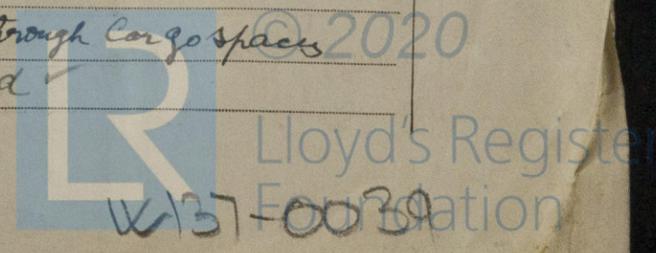
## DESCRIPTION OF CABLES.

Main cable carrying	100	Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .09442 square inches total sectional area
Branch cables carrying	4.8	Amperes, comprised of 4 wires, each 20 L.S.G. diameter, .007082 square inches total sectional area
Branch cables carrying	16.2	Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .02227 square inches total sectional area
Leads to lamps carrying	2	Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .008217 square inches total sectional area
Cargo light cables carrying	3.5	Amperes, comprised of 108 wires, each .006 L.S.G. diameter, .003 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

In rooms lead covered. in holds and upper departments armoured and braided

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 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 None  
 Are there any joints in or branches from the cable leading from dynamo to main switch board None  
 How are the cables led through the ship, and how protected Armoured & braided wire through cargo spaces and galvanized iron tube through deck & where exposed



Report  
 Received from Chief Surveyors...

**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 wire

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat armoured & braided wire

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

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

How are cables carried through beams through bulkheads, &c. Stuffing Glands

How are cables carried through decks Galvanized iron pipe

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 & braided wire

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, stores, or baggage yes

If so, how are the lamp fittings and cable terminals specially protected Run direct to receptacle in fitting

Where are the main switches and cut outs for these lights fitted In Mess Room & in Saloon pantry

If in the spaces, how are they specially protected none

Are any switches or cut outs fitted in bunkers none

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 \_\_\_\_\_

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

TELFORD, GRIFFIN & MACKAY, L<sup>TD</sup>

*[Signature]*

Electrical Engineers

Date 17/2/10

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 102 feet

Distance between dynamo or electric motors and steering compass 98 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>2</u> Amperes	<u>10</u> feet from standard compass	<u>10</u> feet from steering compass
A cable carrying <u>25</u> Amperes	<u>1</u> feet from standard compass	<u>1</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 \_\_\_\_\_

The maximum deviation due to electric currents, etc., was found to be 1/2 degrees on 1/2 course in the case of the standard compass and 1/2 degrees on 1/2 course in the case of the steering compass.

*[Signature]*

Builder's Signature.

Date 23rd Feb 1910

**GENERAL REMARKS.**

The materials and workmanship are good when tested the installation worked satisfactorily.

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

*[Signature]*

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

Committee's Minute GLASGOW 1-MAR. 1910

Elec. Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

BEFORE FORM No. 13-21134.

L.H. 6  
28-2-10.