

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 31351

Port of Glasgow. Date of First Survey 25-1-12 Date of Last Survey 20-5-12 No. of Visits 15  
 No. in Reg. Book 90. on the Iron or Steel S.S. Jaquary Port belonging to Rio de Janeiro  
 Built at Govan By whom Messrs Mackie & Thomson When built 1912  
 Owners Cia Comercio e Navegacao Owners' Address Rio de Janeiro  
 Yard No. 426 Electric Light Installation fitted by Selford Grier & Mackay Ltd When fitted 1912

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open type high speed engine by Parsons Sims & Jeffries direct coupled to 4 pole level compound wound dynamo by Lucas line dynamo & motor  
 Capacity of Dynamo 140 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed engine room Whether single or double wire system is used double  
 Position of Main Switch Board engine room having switches to groups 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 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 yes  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 128 arranged in the following groups:—

A	13	lights each of	16	candle power requiring a total current of	8	Amperes
B	31	lights each of	16	candle power requiring a total current of	19	Amperes
C	14	lights each of	16	candle power requiring a total current of	8	Amperes
D	20	lights each of	16	candle power requiring a total current of	12	Amperes
E	26	lights each of	16	candle power requiring a total current of	16	Amperes
F	17	lights each of	16	candle power requiring a total current of	16	Amperes
	2	Mast head light with	1 lamp each of	32	2	Amperes
	1	Stern Light	1 lamp each of	32	2	Amperes
	2	Side lights with	1 lamp each of	32	2	Amperes
	1	Compass	1 lamp each of	16	1	Amperes
	4	Cargo lights of	1500	candle power each whether incandescent or arc lights	4	Amperes

If arc lights, what protection is provided against fire, sparks, &c. Asbestos as Resistances  
Lamps enclosed in strong glass  
 Where are the switches controlling the masthead and side lights placed chart room

## DESCRIPTION OF CABLES.

Main cable carrying 140 Amperes, comprised of 37 wires, each N<sup>o</sup> 15 L.S.G. diameter, .149 square inches total sectional area  
 Branch cables carrying 24 Amperes, comprised of 7 wires, each N<sup>o</sup> 15 L.S.G. diameter, .028 square inches total sectional area  
 Branch cables carrying 8 Amperes, comprised of 7 wires, each N<sup>o</sup> 16 L.S.G. diameter, .022 square inches total sectional area  
 Leads to lamps carrying 175 Amperes, comprised of 1 wires, each N<sup>o</sup> 18 L.S.G. diameter, .002 square inches total sectional area  
 Cargo light cables carrying 4 Amperes, comprised of 90 wires, each N<sup>o</sup> 15 L.S.G. diameter, .007 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

vulcanized rubber insulation taped & lead covered except in exposed situations  
 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 Clipped up with galv. iron clips & brass screws also run in steel tubing.

**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 & Armoured.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered & Armoured.

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

What special protection has been provided for the cables in engine room Lead covered & Arm<sup>d</sup> on Engine room grating in tubing.

How are cables carried through beams bushed holes through bulkheads, &c. W.T. Stuffing Glands

How are cables carried through decks In galv. tubes standing 1'-0" above deck & W.T. both at flange & inside 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 yes

If so, how are they protected Lead covered & Armoured

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 Well glass fittings in strong brass guards

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

If in the spaces, how are they specially protected ~~~~~

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 ~~~~~ supplied with a voltmeter and ~~~~~ an amperemeter, fixed on Switchboard

**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.

Jelford Grier & Mackay Ltd Electrical Engineers Date 17-5-12

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 100 feet

Distance between dynamo or electric motors and steering compass ~~~~~

The nearest cables to the compasses are as follows:—

A cable carrying <u>8</u> Amperes <u>20</u> feet from standard compass <u>6</u> feet from steering compass
A cable carrying <u>✓</u> Amperes <u>✓</u> feet from standard compass <u>✓</u> feet from steering compass
A cable carrying <u>8</u> Amperes <u>✓</u> feet from standard compass <u>✓</u> 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 none degrees on each course in the case of the standard compass and ~~~~~ degrees on ~~~~~ course in the case of the steering compass.

MACKIE & THOMSON, Ltd. Builder's Signature. Date 23<sup>rd</sup> May 1912

**GENERAL REMARKS.**

The installation has been examined, tested and found satisfactory

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

P. J. Brown.

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

Committee's Minute GLASGOW 28 MAY 1912

Elec. Light



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