

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 26003

Port of Glasgow Date of First Survey 27<sup>th</sup> Oct Date of Last Survey 13. 11. 07. No. of Visits 6  
 No. in Reg. Book on the Iron or Steel S/S "CRAIGFORTH" Port belonging to Leith  
 Built at Port Glasgow. By whom A Rodgers & Co When built 1907.  
 Owners Russell & Co Owners' Address 2 St. Andrew Sq. Edinburgh.  
 Yard No. 404 Electric Light Installation fitted by Telford Gair Mackay When fitted 9/11/07

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Open type engine Double acting, single cylinder.  
 Semi enclosed Dynamo direct coupled, 4 Pole.  
 Capacity of Dynamo 70 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed On starting platform Whether single or double wire system is used Double  
 Position of Main Switch Board Beside dynamo having switches to groups 5 Circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each no auxiliary switch boards

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 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 All switch and cut outs are on slate or porcelain

Total number of lights provided for 99 arranged in the following groups:—

A Forward	14 lights each of	16	candle power requiring a total current of	8.4	Amperes
B Saloon	28 lights each of	16	candle power requiring a total current of	16.8	Amperes
C Engineers etc.	28 lights each of	16	candle power requiring a total current of	16.8	Amperes
D Engines	13 lights each of	16	candle power requiring a total current of	7.8	Amperes
E Navigation	5 lights each of	32	candle power requiring a total current of	6.	Amperes
2 Mast head lights with	1 lamps each of	32	candle power requiring a total current of	2.4	Amperes
2 Side lights with	1 lamps each of	32	candle power requiring a total current of	2.4	Amperes
5 Cargo lights of		12.8	each candle power, whether incandescent or arc lights	4.8	

Included in circuits

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

Where are the switches controlling the masthead and side lights placed In chart Room

**DESCRIPTION OF CABLES.**

Main cable carrying 50.4 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .06039 square inches total sectional area  
 Branch cables carrying 16.8 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .02227 square inches total sectional area  
 Branch cables carrying 7.8 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .007052 square inches total sectional area  
 Leads to lamps carrying 2.4 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .003217 square inches total sectional area  
 Cargo light cables carrying 4.8 Amperes, comprised of 1 wires, each 14 L.S.G. diameter, .005027 square inches total sectional area

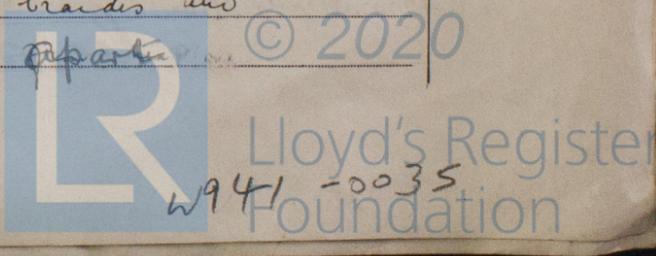
**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

All wires and cables are Helmig's best make 2500 meg. grade  
 In accommodation except forecastle, the circuits are laid in wood casings wherever the deck is iron, the wires are armoured and braided  
 Joints in cables, how made, insulated, and protected no joints whatever

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

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. All cables are armoured and braided and clipped to decks with strong iron clips. Clips being 13" apart.



**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 Armoured braided and compounded

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured braided + compounded

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

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

How are cables carried through beams in armour through bulkheads, &c. in glands (water-tight)

How are cables carried through decks in stuffed deck tubes

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 In holds all cables are armoured braided + compounded.

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 no fittings

Where are the main switches and cut outs for these lights fitted no switches

If in the spaces, how are they specially protected no switches

Are any switches or cut outs fitted in bunkers no

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

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

How are the returns from the lamps connected to the hull no hull connections

Are all the joints with the hull in accessible positions no joints

The installation is yes supplied with a voltmeter and yes an amperemeter, fixed on main switch 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 98 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.

**TELFORD, GIBER & MACKAY, LTD.**

[Signature] Secretary. Electrical Engineers Date 11/11/07

**COMPASSES.**

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6</u>	Amperes	<u>12</u>	feet from standard compass	<u>1.5</u>	feet from steering compass
A cable carrying	<u>2</u>	Amperes	<u>6</u>	feet from standard compass	<u>4</u>	feet from steering compass
A cable carrying	<u>0.6</u>	Amperes	<u>in</u>	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 nil degrees on nil course in the case of the standard compass and nil degrees on nil course in the case of the steering compass.

A. Rodger & Co. Builder's Signature. Date 18. Nov. 1907.

**GENERAL REMARKS.** This installation has been fitted on board under Survey, & tested under working conditions, & found satisfactory.

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

Committee's Minute 5 NOV 1907

Records Electric Light

It is submitted that the Record Elec. Light be noted in the Reg. [Signature]  
Lloyd's Register Foundation