

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16329

Port of Greenock Date of First Survey 23<sup>rd</sup> July 1912 Date of Last Survey 27<sup>th</sup> Sept 1912 No. of Visits 23  
 No. in on the ~~Iron~~ Steel S.S. FORDONIAN. Port belonging to Glasgow  
 Reg. Book Built at Port Glasgow By whom Clyde Shipbuilding Co. Ltd. When built 1912  
 Owners Canadian Interlake Line Ltd Owners' Address Toronto  
 Card No. 298 Electric Light Installation fitted by H. P. Northroyd Ltd When fitted 1912

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo of the multipolar type coupled direct to a single cylinder high speed engine

Capacity of Dynamo 60 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Is Dynamo fixed Star side starting Platform Whether single or double wire system is used Double  
 Position of Main Switch Board on stow near dynamo having switches to groups four of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each no auxiliary boards

Are cut outs 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  
 Are cut outs 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 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 yes  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 105 arranged in the following groups:—

Machinery	12	lights each of	16	candle power requiring a total current of	4	Amperes
Bolds	33	lights each of		candle power requiring a total current of	19	Amperes
Off Accom.	18	lights each of		candle power requiring a total current of	10.5	Amperes
Side Accom.	4	lights each of		candle power requiring a total current of	24.5	Amperes
		lights each of		candle power requiring a total current of		Amperes
2 Mast head light with	2	lamps each of	32	candle power requiring a total current of	2.32	Amperes
2 Side light with	2	lamps each of	32	candle power requiring a total current of	2.32	Amperes
		Cargo lights of		candle power, whether incandescent or arc lights		

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

Where are the switches controlling the masthead and side lights placed In cabin house

### DESCRIPTION OF CABLES.

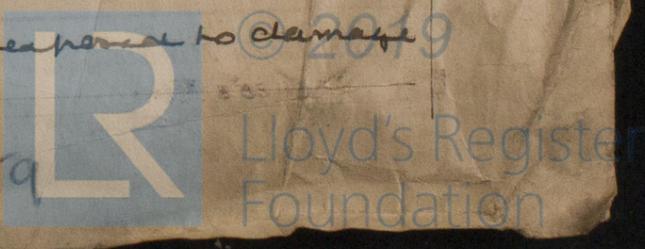
Main cable carrying 60 Amperes, comprised of 19 wires, each .06 diameter, .06000 square inches total sectional area  
 Branch cables carrying 19 Amperes, comprised of 4 wires, each .06 diameter, .022140 square inches total sectional area  
 Branch cables carrying 24.5 Amperes, comprised of 4 wires, each .06 diameter, .022140 square inches total sectional area  
 Leads to lamps carrying 1.8 Amperes, comprised of 1 wires, each .04 diameter, .001810 square inches total sectional area  
 Cargo light cables carrying — Amperes, comprised of — wires, each — diameter, — square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

In machinery spaces pure vulcanised rubber taped & lead sheathed braided & armoured with steel wires, this applies also to all main cables from engine room  
 In cabin as above only lead sheathed  
 Joints in cables, how made, insulated, and protected no joints

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 —  
 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 Steel armouring where exposed to damage  
 Lead covered in all accommodation yes

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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 Lead covered in hull

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 & armoured

How are cables carried through beams Lead sheathes through bulkheads, &c. Water tight gland

How are cables carried through decks Deck tubes 1 1/2" diam. of the deck made water tight with rubber wash

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 stut 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 Heavy cast iron guards

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 — 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 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 100 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms 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.

**H. T. BOOTHROYD, LIMITED.**

*H. T. Boothroyd*  
GENERAL MANAGER

Electrical Engineers

Date Oct 9<sup>th</sup> 1912

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 230 feet

Distance between dynamo or electric motors and steering compass 225 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>4</u> Amperes	<u>16</u> feet from standard compass	<u>12</u> feet from steering compass
A cable carrying _____ Amperes	_____ feet from standard compass	_____ 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 yes

The maximum deviation due to electric currents, etc., was found to be no degrees on no course in the case of the standard compass and no degrees on no course in the case of the steering compass.

*Archibald Welch*  
Director

Builder's Signature.

Date Oct 5<sup>th</sup> 1912

**GENERAL REMARKS.**

The materials and workmanship are good. On completion the installation was tested and found to work.

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

*J.W.D. 17/10/12*

*Wm. Austin*

Surveyor to Lloyd's Register of British and Foreign Shipping

Committee's Minute

GLASGOW 15 OCT. 1912

*Elec. Light*



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