

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17617

Port of Glasgow Date of First Survey ✓ Date of Last Survey 29 Decr 1899 No. of Visits ✓  
 No. in Reg. Book on the Iron or Steel Ss "Itaura" Port belonging to Glasgow Harbour Board  
 Built at Dumbarton By whom H. Denny & Bros. When built 1899  
 Owners British India Steam Navigation Co. Owners' Address \_\_\_\_\_  
 Yard No. 614 Electric Light Installation fitted by H. Denny & Bros. When fitted 1899

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

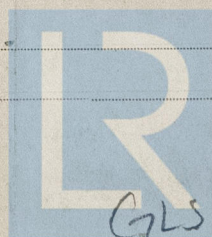
Merri Clarke Chapman 10000 Engine and  
Dynamo Compound wound, direct coupled to engine.  
 Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Engine room  
 Position of Main Switch Board \_\_\_\_\_ having switches to groups 4 group of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each one in Porting and one in  
Engine room side switches on each one in forecabin with  
side switches  
 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 30% 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 Mr. G.W. Booth of Institution  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes are given to the engineers  
 Total number of lights provided for 144 arranged in the following groups:—  
 A 38 lights each of 16 candle power requiring a total current of 19 Amperes  
 B 19 lights each of 16 candle power requiring a total current of 9 Amperes  
 C 40 lights each of 16 candle power requiring a total current of 20 Amperes  
 D 47 lights each of 16 candle power requiring a total current of 24 Amperes  
 E \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
2 Mast head lights with 1 lamps each of 32 candle power requiring a total current of 2 Amperes  
4 Side lights with 1 lamps each of 25 candle power requiring a total current of 4 Amperes  
5 Cargo lights of 8 lb each included in candle power, whether incandescent or are lights incandescent  
above  
 If are lights, what protection is provided against fire, sparks, &c. no arc lamp  
 Where are the switches controlling the masthead and side lights placed Chart room

## DESCRIPTION OF CABLES.

Main cable carrying 80 Amperes, comprised of 19/14 wires, each .080 L.S.G. diameter, .0976 square inches total sectional area  
 Branch cables carrying 19 Amperes, comprised of 7/14 wires, each .080 L.S.G. diameter, .0359 square inches total sectional area  
 Branch cables carrying 19 Amperes, comprised of 7/16 wires, each .064 L.S.G. diameter, .0230 square inches total sectional area  
 Leads to lamps carrying 1 Amperes, comprised of 4/16 wires, each .064 L.S.G. diameter, .0022 square inches total sectional area  
 Cargo light cables carrying 23 Amperes, comprised of 7/14 wires, each .080 L.S.G. diameter, .0359 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Nucleon 3d Mains also lead covered Engine & boiler space & Tunnel  
also armoured  
 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 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 no joints  
 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 Galva iron pipes



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

Are they in places always accessible *yes.* *17617. gls*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *iron pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *none near any source of heat.*

What special protection has been provided for the cables near boiler casings *none on boiler casings*

What special protection has been provided for the cables in engine room *Lead covered & steel armoured.*

How are cables carried through beams *Insulated washers through bulkheads, &c. and watertight glands.*

How are cables carried through decks *Through ~~the~~ lead pipe along deck*

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 *none*

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 *none.*

Where are the main switches and cut outs for these lights fitted *none.*

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 *Permanent.* How fixed *In watertight junction boxes*

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 *Double wired.*

Are all the joints with the hull in accessible positions

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

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.

Electrical Engineers

Date *Jun 7 26<sup>th</sup> 1900*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *140 ft*

Distance between dynamo or electric motors and steering compass *150 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Distance from standard compass	Distance from steering compass
<i>10</i>	<i>18</i>	<i>Double wired</i>	
<i>64</i>	<i>8</i>	<i>10 ft</i>	

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.

*W. M. Dunning & Co. Ltd.* Builder's Signature. Date *30/1/00.*

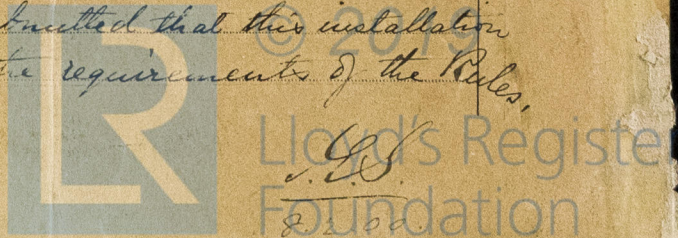
**GENERAL REMARKS.**

*The materials and workmanship as far as finished at this port were good. The installation was to be completed and tested at London. W. R. Austin. Survey completed see London Report 61792.*

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

Committee's Minute

*It is submitted that this installation meets the requirements of the Rules.*



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.