

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No 19490

Port of Glasgow Date of First Survey ☒ Date of Last Survey ☒ No. of Visits ☒  
 No. in Reg. Book on the Iron or Steel S.S. "INVERIC" Port belonging to Glasgow  
 Built at Port Glasgow By whom W. Hamilton & Co When built 1901  
 Owners Steamship Inveric Co Owners' Address Glasgow  
 Yard No. 158 Electric Light Installation fitted by Bateman Cooper & Co Ltd. When fitted Oct 1901

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Shank's 8x6 Vertical Engine 350 Revs direct coupled to compound wound two pole Dynamo  
 Capacity of Dynamo 190 Amperes at 65 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Engine Room Starting platform  
 Position of Main Switch Board Engine Room having switches to groups 5 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1-6 Switches Whulhouse, 1-8 Switches Engine Room  
 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 on Main Board  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes  
 Total number of lights provided for 134 arranged in the following groups:—

A	<u>33</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>29.7</u>	Amperes	
B	<u>23</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>20.7</u>	Amperes	
C	<u>45</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>40.5</u>	Amperes	
D	<u>18</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>16.9</u>	Amperes	
E	<u>9</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>8.1</u>	Amperes	
1	Mast head light with	1	lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.8</u>	Amperes
2	Side light with	2	lamps each of	<u>32</u>	candle power requiring a total current of	<u>3.6</u>	Amperes
9	Cargo lights of	<u>5-16cp each</u>			candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed Whul House

## DESCRIPTION OF CABLES.

Cable Description	Amperes	Wires	Each Wire	L.S.G. diameter	Area	Insulation
Main cable carrying	<u>165</u>	<u>19</u>	<u>12</u>	<u>465</u>	<u>0.161</u> square inches total sectional area	<u>600 Mvgs.</u>
Branch cables carrying	<u>23</u>	<u>7</u>	<u>16</u>	<u>0.229</u>	<u>0.225</u> square inches total sectional area	<u>900 "</u>
Branch cables carrying	<u>13</u>	<u>7</u>	<u>18</u>	<u>0.129</u>	<u>0.127</u> square inches total sectional area	<u>900 "</u>
Leads to lamps carrying	<u>1.8</u>	<u>1</u>	<u>18</u>	<u>0.018</u>	<u>0.0127</u> square inches total sectional area	<u>2000 "</u>
Cargo light cables carrying	<u>13</u>	<u>7</u>	<u>18</u>	<u>0.129</u>	<u>0.127</u> square inches total sectional area	<u>900 "</u>

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

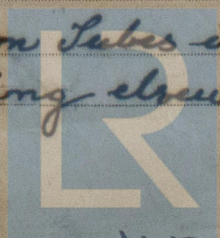
Conductor covered with layer Pure Para Rubber, two coats  
 Vulcanizing India Rubber, one layer India Rubber coated tape  
 & the whole vulcanised together & then braided.

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 — 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 —

How are the cables led through the ship, and how protected In galvanized Iron Tubes in Engine Room, Tunnel, Stokehole, Cargo Spaces, Wood casing elsewhere



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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 galvanised Tubes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Tubes

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

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

How are cables carried through beams Tubes & Leak Plugs through bulkheads, &c.

How are cables carried through decks through Tubes Bolted to Decks

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected galvanised Iron Tubes

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 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 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 —

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 supplied with a voltmeter and an amperemeter, fixed Main Board  
Engine Room

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 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

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 ft

Distance between dynamo or electric motors and steering compass 90 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 1.8 Amperes 4 feet from standard compass 7 feet from steering compass

A cable carrying 12 Amperes 10 feet from standard compass 15 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 nil degrees on all courses in the case of the standard compass and — degrees on — course in the case of the steering compass.

W. Arthur Ker DIRECTOR Builder's Signature. Date 14/4/02

GENERAL REMARKS.

This installation has been fitted on board under survey, it has been tried with all lights on & found satisfactory.  
J. W. Dimmock

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

Committee's Minute Glasgow 28 APR 1902

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It is submitted that this installation appears to be satisfactory.  
J. W. Dimmock  
29.4.02

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.