

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 24351

Port of Glasgow Date of First Survey 6th Feb. Date of Last Survey July 25 No. of Visits 9  
 No. in Reg. Book on the Iron or Steel S.S. S. David Port belonging to London  
 Built at Ch. de Bank By whom John Brown & Co. (Lim.) When built 1906  
 Owners The Fishguard & Rosslare Railways & Harbours Owners' Address  
 Yard No. 370 Electric Light Installation fitted by John Brown & Co. Limited When fitted 1906

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Generating sets each consisting of a patent self lubricating Engine coupled direct to a six pole compound wound dynamo  
 Capacity of Dynamo 750 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where are Dynamos fixed In Engine Rm port star'd for Whether single or double wire system is used Double  
 Position of Main Switch Board In Engine Rm port for having switches to groups of Lighting & 9 Power Circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 43 Main & Distributing Fuse Boards  
in various parts of ship

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-oxidisable 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

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

Total number of lights provided for 456 arranged in the following groups:— 4 + Forced Draught Fans, 1-30" Fan & 1-25" Fan, 4 18 1/2" propeller fans, 6 Thermostats, 2 Refrigerating Motors, 2 Cargo Winches, 2 Ash Hoists & 2 Heaters

A	<u>112</u>	lights each of	<u>8 + 16</u>	candle power requiring a total current of	<u>54.6</u>	Amperes		
B	<u>141</u>	lights each of	<u>8, 16 + 32</u>	candle power requiring a total current of	<u>72.0</u>	Amperes		
C	<u>71</u>	lights each of	<u>8, 16, + 32</u>	candle power requiring a total current of	<u>40.2</u>	Amperes		
D	<u>43</u>	lights each of	<u>8 + 16</u>	candle power requiring a total current of	<u>21.6</u>	Amperes		
E	<u>89</u>	lights each of	<u>8 + 16</u>	candle power requiring a total current of	<u>53.4</u>	Amperes		
	<u>2</u>	Mast head light with	<u>1</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
	<u>2</u>	Side light with	<u>1</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
	<u>2</u>	Cargo lights each of	<u>192</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 In ship's light Indicator in wheel house

## DESCRIPTION OF CABLES.

Main cable carrying	<u>750</u>	Amperes, comprised of	<u>91</u>	wires, each	<u>11</u>	L.S.G. diameter,	<u>.988</u>	square inches total sectional area
Branch cables carrying	<u>187</u>	Amperes, comprised of	<u>37</u>	wires, each	<u>14</u>	L.S.G. diameter,	<u>.190</u>	square inches total sectional area
Branch cables carrying	<u>131</u>	Amperes, comprised of	<u>37</u>	wires, each	<u>16</u>	L.S.G. diameter,	<u>.122</u>	square inches total sectional area
Leads to lamps carrying	<u>6</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>16</u>	L.S.G. diameter,	<u>.003</u>	square inches total sectional area
Cargo light cables carrying	<u>6.6</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>18</u>	L.S.G. diameter,	<u>.012</u>	square inches total sectional area

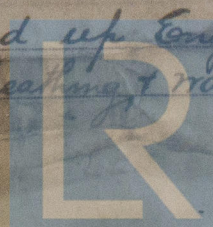
## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of tinned copper wire insulated with pure & vulcanized india rubber & taped  
the whole vulcanized together then taped and braided, also vulcanized india  
rubber, lead covered & taped, also lead covered & armoured & braided  
 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

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 Cables led from switchboard up Engine Rm  
easing and along main D<sup>r</sup> and protected by lead sheathing & wood covering



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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

& 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 and armoured

What special protection has been provided for the cables in engine room Lead covered and armoured

How are cables carried through beams bushed with lead through bulkheads, &c. Watertight glands

How are cables carried through decks Watertight 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 Lead covered and 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 Lamp fittings and terminals protected by hinged iron covers

Where are the main switches and cut outs for these lights fitted on lower and awning decks and Main Deck

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

The installation is one supplied with a voltmeter and 2 an amperemeter, fixed on Switchboard also 4 amperemeters for forced draught fans.

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 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.

John Brown & Company, Limited

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 110' to Dynamo 21' to nearest motor

Distance between dynamo or electric motors and steering compass 106' 16'

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
A cable carrying <u>11.7</u>	<u>10</u>	<u>8</u>	<u>8</u>
A cable carrying <u>25</u>	<u>12</u>	<u>10</u>	<u>10</u>
A cable carrying <u>4.8</u>	<u>10</u>	<u>6</u>	<u>6</u>

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 standard compass and course in the case of the steering compass.

John Brown & Company, Limited

Builder's Signature.

Date

GENERAL REMARKS.

This installation has been well fitted on board and when run under ordinary working conditions was satisfactory  
T. A. McLeod.

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

Committee's Minute

Glasgow Record Electric Light



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It is submitted that the Lloyd's Register of Shipping is the only authority for the purpose of the Act.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 19, 3m34.