

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15942

Port of Glasgow Date of First Survey ☒ Date of Last Survey 23 March 1893 No. of Visits ☒  
 No. in on the Iron or Steel & Arizona Port belonging to Liverpool  
 Reg. Book 848 Built at Glasgow By whom Elder & Co When built 1879  
 Owners Guion S. S. Co. Limited Owners' Address 21 Water Street, Liverpool  
 Yard No. ☒ Electric Light Installation fitted by J. H. Holmes & Co When fitted 1898

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-8 1/2 x 8 Auto. P. S. & T. Engine open type  
Coupled to Cast Iron Dynamo  
 Capacity of Dynamo 180 Amperes at 100 Volts, whether continuous or alternating current Con  
 Where is Dynamo fixed in Space provided in lower decks  
 Position of Main Switch Board near Dynamo having switches to groups A B C D E F of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Fixed in Bulkhead with 20 1/2 18 Sws & fuses. B -  
Fixed at Top of Bulkhead with 6 1/2 18 Sws & fuses. C fixed in Skirting with 3 1/2 18 Sws & fuses.  
Fixed in Dynamo Room with 9 1/2 18 Sws & fuses. E fixed in Dynamo Room with 14 1/2 18 Sws & fuses.  
 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 Verbal. Electrician in charge.  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Slate & Porcelain.  
 Total number of lights provided for 275 arranged in the following groups:—  
 A 105 lights each of 16 candle power requiring a total current of 64 Amperes  
 B 28 lights each of " candle power requiring a total current of 16.8 Amperes  
 C 9 lights each of " candle power requiring a total current of 5.4 Amperes  
 D 33 lights each of " candle power requiring a total current of 19.8 Amperes  
 E 82 lights each of " candle power requiring a total current of 49.2 Amperes  
 1 Mast head light with 1 lamps each of 32 C.P. candle power requiring a total current of 1.8 Amperes  
 2 Side lights with 12 lamps each of 32 C.P. candle power requiring a total current of 3.4 Amperes  
 3 Cargo lights of 4 x 16 candle power, whether incandescent or arc lights

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

Where are the switches controlling the masthead and side lights placed in Wheel House.

## DESCRIPTION OF CABLES.

Main cable carrying	Amperes, comprised of	wires, each	L.S.G. diameter,	square inches total sectional area
Branch cables carrying	<u>7000</u>	<u>Amperes, comprised of</u>	wires, each	L.S.G. diameter, square inches total sectional area
Branch cables carrying	<u>Amperes, comprised of</u>	wires, each	L.S.G. diameter,	square inches total sectional area
Leads to lamps carrying	<u>Amperes, comprised of</u>	wires, each	L.S.G. diameter,	square inches total sectional area
Cargo light cables carrying	<u>Amperes, comprised of</u>	wires, each	L.S.G. diameter,	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized Rubber & braiding & bitumen  
to Mr. King's  
 Joints in cables, how made, insulated, and protected carefully cleaned & twisted then soldered & insulated with white, & nonite & black mason paper.  
 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 None  
 How are the cables led through the ship, and how protected in Strong wood casing firmly secured to the deck with lapped screws in the holds & in cabins &c in real wood casing to match the surroundings



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 Strong Wood Casing.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Strong Lead Wood Casing

What special protection has been provided for the cables near boiler casings Lead Wood Casing

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

How are cables carried through beams each beam bushed with V. fibre bulkheads, &c. Stuffing Boxes.

How are cables carried through decks in flanged lead tubes made thoroughly watertight.

Are any cables run through coal bunkers None or cargo spaces None or spaces which may be used for carrying cargo, stores, or baggage in Emigrants

If so, how are they protected in Strong Wood Casing fixed to Deck

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coats, or baggage Removable Pendants

If so, how are the lamp fittings and cable terminals specially protected Brass Caps

Where are the main switches and cut outs for these lights fitted on Main Board in Dynamometer Room.

If in the spaces, how are they specially protected None being fixed in Spaces

Are any switches or cut outs fitted in bunkers None

Cargo light cables, whether portable or permanently fixed Portable How fixed Socket Con. in Strong lead box

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 .255

The installation is with D.W. Sy.™ supplied with a voltmeter and not an amperemeter, fixed on Main Sea Bd.

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.

J. H. Holmes & Co

Electrical Engineers

Date 1-4-98

COMPASSES.

Distance between dynamo or electric motors and standard compass 113 feet.

Distance between dynamo or electric motors and steering compass 157

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>2.4</u>	<u>6</u>	<u>50 ft.</u>	<u>50 ft.</u>
<u>4.8</u>	<u>4.8</u>	<u>4 ft.</u>	<u>4 ft.</u>
<u>64.8</u>	<u>19</u>	<u>37 ft.</u>	<u>37 ft.</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 \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass and \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the steering compass.

FOR THE FAIRFIELD SHIPBUILDING

AND ENGINEERING CO., LIMITED.

Builder's Signature.

Date 12.4.98

GENERAL REMARKS.

The fittings and workmanship are good. The installation when tried worked satisfactorily.

Wm. Austin.

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules.

S. A. L. 10.11

14/4/98

LR-FAF-T83-89

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS PAGE