

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 32144

Port of Glasgow Date of First Survey 13. 11. 12 Date of Last Survey 19. 12. 12 No. of Visits 8  
 No. in 94 Sep on the Iron or Steel S.S. "SIR ROGER BACON" Port belonging to Liverpool  
 Built at Paistley By whom J. Fullerton Co. When built 1912  
 Owners John Bacon Ltd. Owners' Address \_\_\_\_\_  
 Yard No. 225 Electric Light Installation fitted by James Spie When fitted 1912

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One open fronted vertical engine  $5\frac{1}{2} \times 5$  Coupled direct on Combined cast iron bedplate to compound wound dynamo giving out 33 amperes 110 volts 400 r.p.m.  
 Capacity of Dynamo 33 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed in Engine Room Whether single or double wire system is used double wire  
 Position of Main Switch Board at dynamo having switches to groups A. B. C. D of lights, &c., as below  
 Positions of auxiliary <sup>fuse</sup> switch boards and numbers of <sup>fuses</sup> switches on each One 6 way in Capt. Room Midships.  
One 4 way in Engineers Room aft. One 6 way in Engine Room.

If cut outs are fitted on main switch board to the cables of main circuit no 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 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 50 arranged in the following groups:—

A	<u>Forecastle</u>	<u>9</u> lights each of	<u>16</u> candle power requiring a total current of	<u>4-5</u> Amperes
B	<u>Midships</u>	<u>6</u> lights each of	<u>16</u> candle power requiring a total current of	<u>3</u> Amperes
C	<u>Engine Rm</u>	<u>12</u> lights each of	<u>16</u> candle power requiring a total current of	<u>6</u> Amperes
D	<u>Capt</u>	<u>6</u> lights each of	<u>16</u> candle power requiring a total current of	<u>3</u> Amperes
E		lights each of	candle power requiring a total current of	Amperes
<u>Two</u>	<u>Mast head light</u>	<u>one</u> lamps each of	<u>32</u> candle power requiring a total current of	<u>2</u> Amperes
<u>Two</u>	<u>Side light</u>	<u>one</u> lamps each of	<u>32</u> candle power requiring a total current of	<u>2</u> Amperes
<u>Two</u>	<u>Cargo lights</u>	<u>each with six lamps of 16</u> candle power, whether incandescent or are lights <u>incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. no arc lights

Where are the switches controlling the masthead and side lights placed Chart Room

## DESCRIPTION OF CABLES.

Main cable carrying	<u>27</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> L.S.G. diameter,	<u>.0225</u> square inches total sectional area
Branch cables carrying	<u>45</u> Amperes, comprised of	<u>3</u> wires, each	<u>20</u> L.S.G. diameter,	<u>.00305</u> square inches total sectional area
Branch cables carrying	<u>6</u> Amperes, comprised of	<u>3</u> wires, each	<u>20</u> L.S.G. diameter,	<u>.00305</u> square inches total sectional area
Leads to lamps carrying	<u>.5</u> Amperes, comprised of	<u>1</u> wires, each	<u>18</u> L.S.G. diameter,	<u>.00181</u> square inches total sectional area
Cargo light cables carrying	<u>3</u> Amperes, comprised of	<u>170</u> wires, each	<u>38</u> L.S.G. diameter,	<u>.00479</u> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure vulcanized india rubber taped & braided & compounded. enclosed in screwed tubing in holds.  
 Pure vulcanized india rubber, taped & lead sheathed in Accommodation.  
 Joints in cables, how made, insulated, and protected  
No joints required. all wire run direct to or from distribution boxes.  
The only joints are the sweating sockets at Main Switch Board & dynamo.  
 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 none in such places  
 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 enclosed in screwed iron tubing.

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

Are they in places always accessible *yes except in Hold or Coal bunkers*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *enclosed in Galvanized screwed tubing*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *gal. screwed tubing*

What special protection has been provided for the cables near boiler casings *gal. screwed tubing*

What special protection has been provided for the cables in engine room *screwed tubing*

How are cables carried through beams *screwed tubing* through bulkheads, &c. *tubing, watertight each side.*

How are cables carried through decks *in tubing standing about 4 ft above Deck*

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 *enclosed in gal. screwed tubing*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *none in such places.*

If so, how are the lamp fittings and cable terminals specially protected \_\_\_\_\_

Where are the main switches and cut outs for these lights fitted \_\_\_\_\_

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 *also* supplied with a voltmeter and *also with* an amperemeter, fixed *on Main 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 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.

*James Espie* Electrical Engineers Date *14<sup>th</sup> Feb. 1913*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *100 feet*

Distance between dynamo or electric motors and steering compass *100 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>27</i>	Amperes	<i>100</i>	feet from standard compass	<i>100</i>	feet from steering compass
A cable carrying	<i>6</i>	Amperes	<i>10</i>	feet from standard compass	<i>10</i>	feet from steering compass
A cable carrying	<i>.3</i>	Amperes	<i>1</i>	feet from standard compass	<i>10</i>	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 *0* degrees on *each* course in the case of the standard compass and *0* degrees on *each* course in the case of the steering compass.

*John Fullerton & Co.* Builder's Signature. Date *17/2/13.*

**GENERAL REMARKS.**

*The installation has been examined, tried and found satisfactory*

*It is submitted that this vessel is eligible for THE RECORD. Elec. Light.* *J.W.D.* *21/2/13.*

*P.J. Brown.* Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute **GLASGOW 18 FEB. 1913**  
*Elec. Light*



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

*L.M.A.*  
*18/2/13*  
*J.W.D.*

50,811.—Transfer.