

## 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 on the *Iron or Steel* *S.S. "SIR ROGER BACON"* Port belonging to *Liverpool*  
 Reg. Book *94 Sep* Built at *Paisley* By whom *J. Fullerton & Co.* When built *1912*  
 Owners *John Bacon & Co.* Owners' Address *James Spie*  
 Yard No. *225* Electric Light Installation fitted by *James Spie* When fitted *1912*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*One open fronted vertical engine 5 1/2 x 5' Coupled direct on Combined Cast iron bedplate to Compound wound dynamo giving out 33 amperes 110 volts 400 per cent. min.*

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 *fuse* boards and numbers of *fuses* on each *One 6 way at box in Capt. Room Midships.*

*One 4 way in Engineers Room aft. One 6 way box 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 *Forecastle* 9 lights each of *16* candle power requiring a total current of *4-5* Amperes

B *Midships* 6 lights each of *16* candle power requiring a total current of *3* Amperes

C *Engine Rm* 12 lights each of *16* candle power requiring a total current of *6* Amperes

D *Aft* 6 lights each of *16* candle power requiring a total current of *3* Amperes

E lights each of candle power requiring a total current of Amperes

*Two* Mast head light with *one* lamps each of *32* candle power requiring a total current of *2* Amperes

*Two* Side light with *one* lamps each of *32* candle power requiring a total current of *2* Amperes

*Two* Cargo lights of *each with six lamps of 16* candle power, whether incandescent or are lights *incandescent*

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 *27* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *0.2225* square inches total sectional area

Branch cables carrying *4-5* Amperes, comprised of *3* wires, each *20* L.S.G. diameter, *0.0305* square inches total sectional area

Branch cables carrying *6* Amperes, comprised of *3* wires, each *20* L.S.G. diameter, *0.0305* square inches total sectional area

Leads to lamps carrying *5* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *0.0181* square inches total sectional area

Cargo light cables carrying *3* Amperes, comprised of *170* wires, each *38* L.S.G. diameter, *0.0479* 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.*

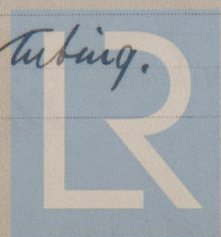
*The only joints are the sweating sockets at Main Switch Board & dynamo.*

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	Amperes	feet from standard compass	feet from steering compass
<i>27</i>	<i>100</i>	<i>100</i>	<i>100</i>
<i>6</i>	<i>10</i>	<i>10</i>	<i>10</i>
<i>.3</i>	<i>1</i>	<i>10</i>	<i>10</i>

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 16<sup>th</sup>*

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.*

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

Committee's Minute

GLASGOW 18 FEB. 1913

*Elec. Light*



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*244 18/2/13*