

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17493.

Port of Greenock Date of First Survey 6<sup>th</sup> June, 1919 Date of Last Survey 5<sup>th</sup> July, 1919 No. of Visits 15  
 No. in Reg. Book on the Iron on Steel Screw Steamer "SAINT BEDE" Port belonging to Liverpool  
 Built at Port Glasgow By whom Lithgow, Limited When built 1919  
 Owners Rankin, Gilmore & Co. Limited Owners' Address Glasgow  
 Yard No. 723 Electric Light Installation fitted by M<sup>rs</sup> Bennett and Rutherford When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One combined coupled Plant 6 1/2" x 6 Open Type Vertical Engine  
N<sup>o</sup> 34568 coupled direct to Compound Wound Dynamo 10/514 running at 300 revs. per minute  
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Main Platform Engine Room Whether single or double wire system is used Double  
 Position of Main Switch Board Near Dynamo having switches to groups seven of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Brews' Quarters, Saloon, Navigation Engine Room, Engineers' Quarters, Blusters & Wireless.

If fuses 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 cessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 25 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 122 arranged in the following groups:—

|   |           |                |           |   |             |         |
|---|-----------|----------------|-----------|---|-------------|---------|
| A | <u>24</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>15.3</u> | Amperes |
| B | <u>19</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>12.1</u> | Amperes |
| C | <u>14</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>10.8</u> | Amperes |
| D | <u>22</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>14.0</u> | Amperes |
| E | <u>10</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>6.4</u>  | Amperes |

2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1.2 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 1.2 Amperes

5 Cargo lights of 90 candle power, whether incandescent or arc lights

3 - 8 amp Arc Lamps  
 If arc lights, what protection is provided against fire, sparks, &c.

Totally enclosed type with internal resistance

Where are the switches controlling the masthead and side lights placed Chartroom

## DESCRIPTION OF CABLES.

|                             |            |                       |           |             |           |  |
|-----------------------------|------------|-----------------------|-----------|-------------|-----------|--|
| Main cable carrying         | <u>100</u> | Amperes, comprised of | <u>34</u> | wires, each | <u>16</u> | S.W.G. diameter, <u>.1176</u> square inches total sectional area |
| Branch cables carrying      | <u>19</u>  | Amperes, comprised of | <u>4</u>  | wires, each | <u>16</u> | S.W.G. diameter, <u>.0222</u> square inches total sectional area |
| Branch cables carrying      | <u>10</u>  | Amperes, comprised of | <u>4</u>  | wires, each | <u>18</u> | S.W.G. diameter, <u>.0125</u> square inches total sectional area |
| Leads to lamps carrying     | <u>3</u>   | Amperes, comprised of | <u>1</u>  | wires, each | <u>16</u> | S.W.G. diameter, <u>.0032</u> square inches total sectional area |
| Cargo light cables carrying | <u>4</u>   | Amperes, comprised of | <u>4</u>  | wires, each | <u>22</u> | S.W.G. diameter, <u>.0042</u> square inches total sectional area |

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

In Accommodation cables are protected by pure & vulcanised india rubber, taped and vulcanised together, thereafter served with Lead covering. In Holds, Engine Room etc., cables are armoured with galvanized iron wires.

Joints in cables, how made, insulated, and protected No joints in ship, extension boxes used where necessary.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Yes

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 Clipped to fore and aft beams and to decks, all armoured cables.



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 *Armoured*

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

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

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

How are cables carried through beams *Through lead ferrules* through bulkheads, &c. *W. I. Glands*

How are cables carried through decks *Iron deck tubes, flanged & bolted*

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 *Armoured*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No*

If so, how are the lamp fittings and cable terminals specially protected */*

Where are the main switches and fuses for these lights fitted */*

If in the spaces, how are they specially protected */*

Are any switches or fuses 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 */*

Is the installation supplied with a voltmeter *Yes* and with an amperemeter *Yes*, fixed on *Main Switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas */*

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *2000* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

*Bennett & Rutherford* \*  
Electrical Engineers

Date *16<sup>th</sup> July 1919*

COMPASSES.

Distance between dynamo or electric motors and standard compass *160 feet*

Distance between dynamo or electric motors and steering compass *150 feet*

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes     | feet from standard compass | feet from steering compass |
|------------------|-------------|----------------------------|----------------------------|
| <i>.6</i>        | <i>one</i>  | <i>one</i>                 | <i>one</i>                 |
| <i>1.2</i>       | <i>four</i> | <i>two</i>                 | <i>two</i>                 |
| <i>8.0</i>       | <i>ten</i>  | <i>twelve</i>              | <i>twelve</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 *Nil* degrees on *Any* course in the case of the standard compass and *Nil* degrees on *Any* course in the case of the steering compass.

For LITHGOWS LIMITED.

*W B Allan*

Builder's Signature.

Date

*21 July 1919*

GENERAL REMARKS.

*This vessel is wired as stated in the report and appears to be in accordance with the Rules of the Society.*

*It is submitted that this vessel is eligible for*

*THE RECORD. ELEC. LIGHT.*

*Re 30/7/19*

*Geo. A. Haring*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

29 JUL 1919

*Elec. Light.*

*gib*



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.