

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 30018.

Port of *Glasgow* Date of First Survey *6/2/11* Date of Last Survey *13-4-11* No. of Visits *22*  
 No. in on the ~~Steel~~ *Twin* s/s "EDAVANA" Port belonging to *Glasgow*  
 Reg. Book Built at *Glasgow* By whom *Barclay Curle & Co.* When built *1911*  
 Owners *The British India Steam Nav. Co. Ltd.* Owners' Address *London*  
 Yard No. *486* Electric Light Installation fitted by *Siemens Bros. Dynamo Works Ltd.* When fitted *1911*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*2 Siemens 4 pole compound dynamos, each coupled direct to a Shaughnessy & Sons single cylinder open type vertical engine 10" x 8".*

Capacity of Dynamo *300* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Main Engine room* Whether single or double wire system is used *double*

Position of Main Switch Board *"* having switches to groups *A to D* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

*2 of 5 & 1 of 4 switches in 2<sup>nd</sup> Class Passage Shade Deck.*  
*1 of 5 switches in Main Engine room.*

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 *none* and to each lamp circuit *Yes*

If cessel 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 *448* arranged in the following groups:—

|          |                      |                        |           |  |                     |         |
|----------|----------------------|------------------------|-----------|--|---------------------|---------|
| A        | <i>93</i>            | lights each of         | <i>16</i> | candle power requiring a total current of        | <i>about 50</i>     | Amperes |
| B        | <i>118</i>           | lights each of         | <i>4</i>  | candle power requiring a total current of        | <i>" 65</i>         | Amperes |
| C        | <i>132</i>           | lights each of         | <i>7</i>  | candle power requiring a total current of        | <i>" 70</i>         | Amperes |
| D        | <i>105</i>           | lights each of         | <i>4</i>  | candle power requiring a total current of        | <i>" 60</i>         | Amperes |
| E        | —                    | lights each of         | —         | candle power requiring a total current of        | —                   | Amperes |
| <i>2</i> | Mast head light with | <i>1</i> lamps each of | <i>32</i> | candle power requiring a total current of        | <i>about 2</i>      | Amperes |
| <i>2</i> | Side light with      | <i>1</i> lamps each of | <i>32</i> | candle power requiring a total current of        | <i>" 2</i>          | Amperes |
| <i>3</i> | Cargo lights of      | <i>8 - 16</i>          |           | candle power, whether incandescent or arc lights | <i>incandescent</i> |         |

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

Where are the switches controlling the masthead and side lights placed *Chart room, under bridge*

## DESCRIPTION OF CABLES.

Main cable carrying *300* Amperes, comprised of *37* wires, each *12* L.S.G. diameter, *.3* square inches total sectional area  
 Branch cables carrying *70* Amperes, comprised of *19* wires, each *14* L.S.G. diameter, *.09372* square inches total sectional area  
 Branch cables carrying *18* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *.022140* square inches total sectional area  
 Leads to lamps carrying *3* Amperes, comprised of *7* wires, each *23* L.S.G. diameter, *.004238* square inches total sectional area  
 Cargo light cables carrying *4* Amperes, comprised of *7* wires, each *23* L.S.G. diameter *4* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Conductors of high conductivity, tinned copper wire, insulated with pure & vulcanized india rubber, taped, braided & compounded, also as before, but in addition taped lead covered & armoured with gal. steel wire, and held in place with gal. iron clips.*

Joints in cables, how made, insulated, and protected

*Jointless system.*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *—* 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 *in teakwood or pine casings or as above described.*



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

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

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

How are cables carried through beams *in fibre plugs* through bulkheads, &c. *special gland.*

How are cables carried through decks *special Deckpipes.*

Are any cables run through coal bunkers *No.* or cargo spaces *No.* or spaces which may be used for carrying cargo, stores, or baggage *Yes.*

If so, how are they protected *Lead covered & armoured.*

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

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

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 supplied with *1* voltmeter and *1* amperemeter, fixed *on Main Switchboard.*

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.

SIEMENS BROTHERS DYNAMO WORKS LIMITED,

MANCHESTER.

Electrical Engineers

Date *19th April 1911*

COMPASSES.

Distance between dynamo or electric motors and standard compass *over 100 ft.*

Distance between dynamo or electric motors and steering compass *over 100 ft.*

The nearest cables to the compasses are as follows:—

|                                     |                                       |                                       |
|-------------------------------------|---------------------------------------|---------------------------------------|
| A cable carrying <i>18.</i> Amperes | <i>20.</i> feet from standard compass | <i>20.</i> feet from steering compass |
| A cable carrying <i>6.</i> Amperes  | <i>3.</i> feet from standard compass  | <i>6.</i> feet from steering compass  |
| A cable carrying <i>—</i> Amperes   | <i>—</i> feet from standard compass   | <i>—</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 *Nil* degrees on standard compass and *Nil* degrees on courses in the case of the steering compass.

FOR BIRSELY, CURLE & CO. LTD.

Builder's Signature.

Date *25th Apr 1911*

GENERAL REMARKS.

*This installation has been fitted in accordance with the rules, tested under full working conditions, and found satisfactory.*

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

Committee's Minute

*Glasgow 3rd MAY 1911*

*Elec. Light*

It is submitted that this vessel is eligible for the Lloyd's Register of British and Foreign Shipping.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.