

REPORT ON ELECTRIC LIGHTING INSTALLATION. No 6250

Port of Antwerp Date of First Survey 11-10 Date of Last Survey 17-10 No. of Visits 4
 No. in Reg. Book 383 on the Iron or Steel S/S Benarty Port belonging to Leith
 Built at Sunderland By whom Barham & Sons When built 1902
 Owners Messrs H. Thomson & Sons Owners' Address Leith
 Yard No. 187 Electric Light Installation fitted by The Sunderland Forge & Eng Co When fitted 1904

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Inverted single cylinder open type engine direct coupled to multipolar compound board dynamo
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in valve recess in engine room
 Position of Main Switch Board near dynamo having switches to groups four of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each
1 in chart room 3 switches, 1 in mess room (1 switch)

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 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 136, arranged in the following groups:—

A	<u>45</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>27</u>	Amperes
B	<u>42</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>25.2</u>	Amperes
C	<u>43</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>28.8</u>	Amperes
D	<u>2</u>	lights each of	<u>3000</u>	candle power requiring a total current of	<u>15</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
<u>2</u>	Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
<u>9</u>	Cargo lights of	<u>five</u>	<u>16</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. Strong glazed lanterns fitted (see page 1)
 Where are the switches controlling the masthead and side lights placed In Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying	<u>100</u> Amperes, comprised of	<u>19</u> wires, each	<u>14</u> L.S.G. diameter,	<u>.1</u> square inches total sectional area
Branch cables carrying	<u>13</u> Amperes, comprised of	<u>7</u> wires, each	<u>18</u> L.S.G. diameter,	<u>.073</u> square inches total sectional area
Branch cables carrying	<u>7</u> Amperes, comprised of	<u>7</u> wires, each	<u>20</u> L.S.G. diameter,	<u>.007</u> square inches total sectional area
Leads to lamps carrying	<u>6</u> Amperes, comprised of	<u>1</u> wires, each	<u>18</u> L.S.G. diameter,	<u>.001</u> square inches total sectional area
Cargo light cables carrying	<u>3</u> Amperes, comprised of	<u>138</u> wires, each	<u>30</u> L.S.G. diameter,	<u>.005</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wires insulated with pure and vulcanized India rubber, taped and lead covered. & armoured where required.

Joints in cables, how made, insulated, and protected No joints used wiring carried out on the distribution 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 Main cables are run along bulwarks fore and aft - lead covered and armoured wires being used.



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 and armoured wire used.

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

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

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

How are cables carried through beams holes bushed for lead covered wires through bulkheads, &c. M.D. Glands used.

How are cables carried through decks staleight deck tubes used.

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 and armoured wires used.

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

If so, how are the lamp fittings and cable terminals specially protected no

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 —

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 installation supplied with a voltmeter and ~~an ammeter~~, fixed on switchboard

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.

THE SUNDERLAND FORK & ENGINEERING CO., LTD.

W. J. M. M. M. M. Electrical Engineers Date 17. Octo 1904

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 feet

Distance between dynamo or electric motors and steering compass 80 do

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6</u>	Amperes	<u>on</u>	from standard compass	<u>on</u>	feet from steering compass
A cable carrying	<u>5</u>	Amperes	<u>4</u>	feet from standard compass	<u>3</u>	feet from steering compass
A cable carrying		Amperes		feet from standard compass		feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power No

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.

Builder's Signature. Date _____

GENERAL REMARKS:

The fittings & workmanship are good in accordance with the Rules. The Compasses will it is stated be adjusted on the voyage to London. There is no deviation, in my opinion, & I have the record of "Electric Light" recorded in the Register Book

Fee: £53.10 applied for (Received) 25/10/04. P.C.

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

Committee's Minute

It is submitted that this installation appears to be satisfactory

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 11.