

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8560

Port of Middlesbrough Date of First Survey Whale Date of Last Survey Building No. of Visits ✓
 No. in Reg. Book 54 on the Iron or Steel S.S. Falernian Port belonging to Linnpool
 Built at Middlesbrough By whom W. Harkness & Co. Ltd. When built 1914
 Owners _____ Owners' Address _____
 Yard No. 204 Electric Light Installation fitted by Campbell & Sherwood Ltd When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A Campbell & Sherwood four pole Compound wound dynamo direct coupled to a Foster Engine

Capacity of Dynamo 60 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Starboard side of Engine room Whether single or double wire system is used Double
 Position of Main Switch Board Aft Bulkhead having switches to groups 4 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Chartroom 6, Steering Gear House 6 and a switch in a convenient position to each light

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 vessel 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 75 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 88 of 16 CP & 5 of 32 arranged in the following groups :-

A	Navigation	lights each of <u>4 of 32 CP & 7 of 16</u>	candle power requiring a total current of <u>8.25</u>	Amperes
B	Cargo	lights each of <u>2 of 16 CP</u>	candle power requiring a total current of <u>11.00</u>	Amperes
C	Accommodation	lights each of <u>42 of 16 CP & 1 of 32</u>	candle power requiring a total current of <u>24.2</u>	Amperes
D	Engine room	lights each of <u>19 of 16 CP</u>	candle power requiring a total current of <u>10.45</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>Included in A</u>	Amperes	
	<u>2</u> Side light with <u>1</u> lamps each of <u>32</u>	candle power requiring a total current of _____	Amperes	
	<u>4</u> Cargo lights of <u>5 of 16</u>	candle power, whether incandescent or arc lights <u>Incandescent</u>		

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

Where are the switches controlling the masthead and side lights placed In Chart house

DESCRIPTION OF CABLES.

Main cable carrying <u>53.9</u> Amperes, comprised of <u>7</u> wires, each <u>14</u> S.W.G. diameter, <u>.035</u> square inches total sectional area
Branch cables carrying <u>24.2</u> Amperes, comprised of <u>7</u> wires, each <u>18</u> S.W.G. diameter, <u>.0135</u> square inches total sectional area
Branch cables carrying <u>11.0</u> Amperes, comprised of <u>7</u> wires, each <u>20</u> S.W.G. diameter, <u>.007</u> square inches total sectional area
Branch cables carrying <u>8.25</u> Amperes, comprised of <u>7</u> wires, each <u>22</u> S.W.G. diameter, <u>.0042</u> square inches total sectional area
Cargo light cables carrying <u>2.75</u> Amperes, comprised of <u>114</u> wires, each <u>38</u> S.W.G. diameter, <u>.0032</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

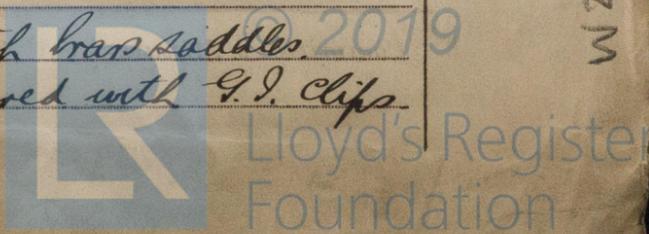
In Accommodation - Lead covered wire. In Engine & Boiler rooms - Armoured & braided. In exposed places - V.I.P. in screwed G.I. pipe

Joints in cables, how made, insulated, and protected None made

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances _____ 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 Lead covered secured with brass saddles
Armoured & braided secured with G.I. clips. G.I. pipe secured with G.I. clips



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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 Screwed G.I. pipe

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

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

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

How are cables carried through beams Fibre females through bulkheads, &c. U.S. brass glands

How are cables carried through decks Deck pipes flanged to 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 Armoured & braided

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 Special sockets in W.T.C.I. boxes

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 Board

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 1000 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.

Campbell & Sherwood Ltd Electrical Engineers Date Aug 27th 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass about 150 feet

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

The nearest cables to the compasses are as follows:—

A cable carrying	<u>8.25</u>	Amperes	<u>6</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>1.65</u>	Amperes	<u>3</u>	feet from standard compass	<u>7</u>	feet from steering compass
A cable carrying	<u>.85</u>	Amperes	<u>1</u>	feet from standard compass	<u>1</u>	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 every course in the case of the standard compass and Nil degrees on every course in the case of the steering compass.

For W. HARKESS & SON, LIMITED.

Robert Mitchell Builder's Signature. Date _____

GENERAL REMARKS.

This Electric Light Installation has been fitted on board in accordance with the Rules and tried under full working conditions with satisfactory results.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

W. H. Miller Surveyor to Lloyd's Register of British and Foreign Shipping. 3/9/14

Committee's Minute _____

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Am. 8.12.—Transfer.



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