

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. ✓

Report of MIDDLESBRO' Date of First Survey Whole Date of Last Survey Building No. of Visits ✓
 on the Iron or Steel S. S. "Melania" Port belonging to ✓
 No. in g. Book Built at Stockton By whom James Craig Taylor & Co When built 1914
 Owners' Address ✓
 No. 161 Electric Light Installation fitted by James Falconer & Co When fitted 1914
Newcastle

DESCRIPTION OF DYNAMO, ENGINE, ETC.

7 1/2" x 6" Open Port Engine coupled direct to
Compound wound dynamo
 Capacity of Dynamo 105 Amperes at 110 Volts, whether continuous or alternating current Continuous
 There is Dynamo fixed Up in engine room Whether single or double wire system is used Double
 Position of Main Switch Board Up in engine room having switches to groups A, B, C, D of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 2 x 15 Wagon Pans, 12 in Stowage
4 Wagon Bunkers, 15 Wagon Messroom
7 - Eng. Room
 Are fuses 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
 Is vessel 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-oxidisable 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 154 arranged in the following groups :-

<u>Masthead</u>	<u>57</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>29</u>	Amperes
<u>Forward</u>	<u>24</u>	lights each of		candle power requiring a total current of	<u>12.2</u>	Amperes
<u>Up</u>	<u>38</u>	lights each of		candle power requiring a total current of	<u>19.3</u>	Amperes
<u>Eng. Room</u>	<u>35</u>	lights each of		candle power requiring a total current of	<u>17.8</u>	Amperes
		lights each of		candle power requiring a total current of		Amperes
<u>2 Mast head light</u>	<u>with 1 lamp each</u>	of	<u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
<u>2 Side light</u>	<u>with 1 lamp each</u>	of	<u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
<u>2 Cargo lights</u>			<u>6 x 16</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

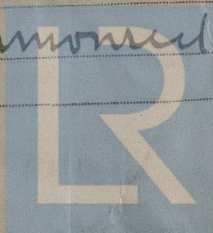
Where are the switches controlling the masthead and side lights placed Wheelhouse

DESCRIPTION OF CABLES.

Main cable carrying	<u>105</u>	Amperes, comprised of	<u>37</u>	wires, each	<u>16</u>	S.W.G. diameter,	<u>.1176</u>	square inches total sectional area
Branch cables carrying	<u>29</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>15</u>	S.W.G. diameter,	<u>.0282</u>	square inches total sectional area
Branch cables carrying	<u>19.3</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>16</u>	S.W.G. diameter,	<u>.0223</u>	square inches total sectional area
Leads to lamps carrying	<u>.5</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>18</u>	S.W.G. diameter,	<u>.0018</u>	square inches total sectional area
Cargo light cables carrying	<u>3</u>	Amperes, comprised of	<u>3</u>	wires, each	<u>20</u>	S.W.G. diameter,	<u>.0032</u>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Immited copper Pure & Vule J. R. Insulated Braided & Compound
 Joints in cables, how made, insulated, and protected ✓
 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 ✓
 How are the cables led through the ship, and how protected Lead covered & Ammoniated



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible Generally

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 Fibre bushes through bulkheads, &c. W. J. Glunde

How are cables carried through decks Deck tubes

Are any cables run through coal bunkers Yes 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 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 W. J. Glunde

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 In 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 Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas Glasses all Gas tight

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 600 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass 210 ft

Distance between dynamo or electric motors and steering compass 200

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>10</u>	<u>20</u>	<u>10</u>	<u>10</u>
<u>5</u>	<u>1</u>	<u>1</u>	<u>1</u>

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 all courses in the case of the standard compass and nil degrees on all courses in the case of the steering compass.

For CRAIG, TAYLOR & CO. LIMITED,

A. Taylor DIRECTOR

Builder's Signature.

Date

5th June 1914

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules and on completion was tested under full working conditions and found satisfactory

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

J. W. D.
8/6/14

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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