

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 14595

Port of Leith Date of First Survey 3rd August Date of Last Survey 28th August 1914 No. of Visits 5
 No. in Reg. Book on the Iron or Steel No. Chakdara Port belonging to Glasgow
 Built at Leith By whom Ramage & Ferguson, Ltd. When built 1914
 Owners British India Steam Navigation Co. Ltd. Owners' Address Glasgow
 Yard No. 233 Electric Light Installation fitted by Siemens Bros, Glasgow, Ltd. When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1. Siemens multipole dynamo direct coupled to shafts vertical open compound engine 8' x 12' x 8'
 1. Siemens ditto " " " vertical open single cylinder engine 4 1/2' x 4'
 Capacity of Dynamo 240 & 50 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed In Main Engine room Whether single or double wire system is used double
 Position of Main Switch Board In Main Engine room having switches to groups A to E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 2 of 2 switches & 1 of 3 switches on independent aft on Engine casing & 1 of 3 switches in Engine room.

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 100 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 304 arranged in the following groups:—

A	<u>54</u> lights each of <u>49-16^{1/2} & 5-32</u> candle power requiring a total current of <u>37</u> Amperes
B	<u>18-12" & 7-40" fuses & 102</u> lights each of <u>16</u> candle power requiring a total current of <u>71</u> Amperes
C	<u>2 Arc & 110</u> lights each of <u>"</u> candle power requiring a total current of <u>76</u> Amperes
D	<u>38</u> lights each of <u>37-16^{1/2} & 1-32</u> candle power requiring a total current of <u>24.7</u> Amperes
E	<u>Wireless</u> lights each of <u>—</u> candle power requiring a total current of <u>25</u> 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>"</u> candle power requiring a total current of <u>2.4</u> Amperes
	<u>3</u> Cargo lights of <u>8-16</u> candle power, whether incandescent or arc lights <u>incandescent</u>

If arc lights, what protection is provided against fire, sparks, &c. enclosed in glazed lanterns

Where are the switches controlling the masthead and side lights placed in Chart room

DESCRIPTION OF CABLES.

Main cable carrying <u>240</u> Amperes, comprised of <u>37</u> wires, each <u>12</u> S.W.G. diameter, <u>.30</u> square inches total sectional area
Branch cables carrying <u>50</u> Amperes, comprised of <u>19</u> wires, each <u>18</u> S.W.G. diameter, <u>.034</u> square inches total sectional area
Branch cables carrying <u>76</u> Amperes, comprised of <u>19</u> wires, each <u>14</u> S.W.G. diameter, <u>.094</u> square inches total sectional area
Branch cables carrying <u>24</u> Amperes, comprised of <u>7</u> wires, each <u>16</u> S.W.G. diameter, <u>.022</u> square inches total sectional area
Leads to lamps carrying <u>.64</u> Amperes, comprised of <u>7</u> wires, each <u>23</u> S.W.G. diameter, <u>.0031</u> square inches total sectional area
Cargo light cables carrying <u>4.8</u> Amperes, comprised of <u>7</u> wires, each <u>23</u> S.W.G. diameter, <u>.0031</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of high conductivity dressed copper insulated with pure and vulcanized india rubber, taped braided, and compounded, also as before but taped and lead covered, or lead covered and armoured with galvanized steel wires and braided over armour.
 Joints in cables, how made, insulated, and protected Jointless system with expansion Boxes.

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 In fine casings, or clipped to decks or bulkheads with brass or galvanized iron clips and brass screws.



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 Lead covered & armoured

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 bushes through bulkheads, &c. in special glands

How are cables carried through decks in special ducts

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 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 _____

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 2 voltmeter _____, and with 2 amperemeter _____, 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 1250 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.

H.S. Stewart Electrical Engineers Date 15 Oct 1914

COMPASSES:

Distance between dynamo or electric motors and standard compass over 100 feet

Distance between dynamo or electric motors and steering compass over 100 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>10.2</u>	Amperes	<u>about 10</u>	feet from standard compass	<u>about 16</u>	feet from steering compass
A cable carrying	<u>.6</u>	Amperes	<u>in</u>	feet from standard compass	<u>in</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 Yes

The maximum deviation due to electric currents, etc., was found to be Nil degrees on _____ course in the case of the standard compass and Nil degrees on _____ course in the case of the steering compass.

Alex. Ferguson Builder's Signature. Date Oct 20th 1914

GENERAL REMARKS.

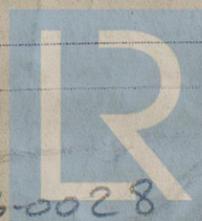
This installation appears to have been fitted in a satisfactory manner and in accordance with the rules.

It is submitted that this vessel is eligible for

THE RECORD. Elec. light.

J.W.D. 26/10/14 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute



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