

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15203.

Port of Greenock Date of First Survey 21st Aug 1904 Date of Last Survey 12th Sept 1904 No. of Visits 7
 No. in Reg. Book on the Iron or Steel Shs. "Lal dorck" Port belonging to Glasgow
 Built at Greenock By whom Messrs Scott & Co When built 1904
 Owners _____ Owners' Address _____
 Yard No. 414 Electric Light Installation fitted by Messrs Clark Chapman & Co Ltd When fitted 1904

DESCRIPTION OF DYNAMO, ENGINE, ETC.

The single cylinder double acting open type vertical Engine direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 60 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Room Whether single or double wire system is used double

Position of Main Switch Board near dynamo having switches to groups A. B. C. D. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light & groups of lights fitted with switches as required.

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 50 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, porcelain & slate.

Total number of lights provided for 91 arranged in the following groups:—

A	<u>20</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12</u>	Amperes
B	<u>28</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>16.8</u>	Amperes
C	<u>24</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>14.4</u>	Amperes
D	<u>14</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>8.4</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<u>2</u>	Must 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>4</u>	Cargo lights of	<u>each 6-16</u>	candle power, whether incandescent or arc lights	<u>incandescent.</u>	

If arc lights, what protection is provided against fire, sparks, &c. None fitted.

Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 60 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0600 square inches total sectional area

Branch cables carrying 14.4 Amperes, comprised of 4 wires, each 16 L.S.G. diameter, .0221 square inches total sectional area

Branch cables carrying 12 Amperes, comprised of 4 wires, each 18 L.S.G. diameter, .0124 square inches total sectional area

Leads to lamps carrying 6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 146 wires, each 38 L.S.G. diameter, .00504 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

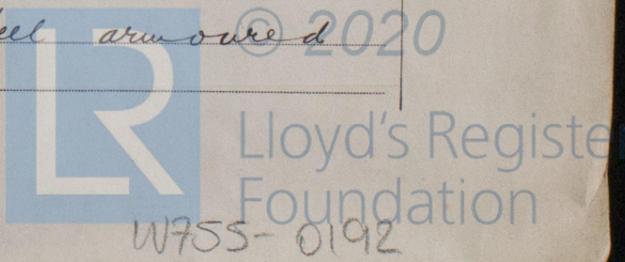
Vulcanized rubber taped and braided, and lead covered overall, where exposed Steel armoured over the lead covering.

Joints in cables, how made, insulated, and protected No joints except mechanical ones.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes 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 Yes, no.

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 and steel armoured secured to underside of deck with strong clips.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible no

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered and steel armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered and armoured

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

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

How are cables carried through beams in lead bushes through bulkheads, &c. in watertight glands

How are cables carried through decks in galvanized iron watertight deck tubes

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 Lead covered and steel 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 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 to watertight C.I. Con. Boxes.

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel double wire system

How are the returns from the lamps connected to the hull _____

Are all the joints with the hull in accessible positions _____

The installation is now supplied with a voltmeter and also an amperemeter, fixed 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 100 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.

For Clarke, Chapman & Co. Ltd
J. Walker Director, Electrical Engineers Date Sept. 30th 1907

COMPASSES.

Distance between dynamo or electric motors and standard compass 110 ft.

Distance between dynamo or electric motors and steering compass 96 ft.

The nearest cables to the compasses are as follows:—

A cable carrying <u>6</u> Amperes	<u>12</u> feet from standard compass	<u>6</u> feet from steering compass
A cable carrying <u>6</u> Amperes	<u>6</u> feet from standard compass	<u>12</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 _____

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.

SCOTT'S SHIPBUILDING & ENGINEERING COMPANY, LIMITED.

C. Muir Director, Builder's Signature. Date 2nd Oct. 1907.

GENERAL REMARKS.

The workmanship is good. When completed the installation was tested and worked satisfactorily.

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

Committee's Minute Glasgow - 8 OCT 1907

Receipt "Electric Light"

It is submitted that the Record Elec. Light be noted in the Reg. Books.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13-2m.34.