

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 12815.

Port of WEST HARTLEPOOL Date of First Survey 18th Oct. 1905 Date of Last Survey 24th Jan 1906 No. of Visits 37
 No. in Reg. Book 7th on the Iron or Steel as "blue horizontal" Port belonging to Raynor
 Built at Hartlepool By whom Furness, Withy & Co^{ltd} When built 1906
 Owners Clyde, Irvine & Co. Owners' Address Raynor
 Yard No. 288 Electric Light Installation fitted by Furness, Withy & Co^{ltd} When fitted January 1906

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A Compound wound dynamo Coupled direct to single cylinder engine running at 200 revolutions per minute at 100 lbs steam pressure
 Capacity of Dynamo 185 Amperes at 65 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed bottom platform of engine room Whether single or double wire system is used double
 Position of Main Switch Board near dynamo having switches to groups 6 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Forecastle 1 @ 3 Saloon 1 @ 4 + 2 @ 3
Navigation 1 @ 12, Engineers accommodation 1 @ 6, Cargo 1 @ 6
Engine room 1 @ 1 + 2 @ 6, After Accommodation 1 @ 4 + 1 @ 5
 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
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 132 arranged in the following groups :-

A	<u>18</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>16.2</u>	Amperes
B	<u>36</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>32.4</u>	Amperes
C	<u>18</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>16.2</u>	Amperes
D	<u>28</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>25.2</u>	Amperes
E	<u>32</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>32.4</u>	Amperes
	<u>2</u>	Mast head light with <u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>1.8</u>	Amperes
	<u>2</u>	Side light with <u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>1.8</u>	Amperes
	<u>32</u>	<u>in 4 clusters</u> Cargo lights of <u>8 lights each</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. Hexagon clear glass lanterns
 Where are the switches controlling the masthead and side lights placed Chart house on bridge

DESCRIPTION OF CABLES.

Main cable carrying 186 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .186 square inches total sectional area
 Branch cables carrying 61.2 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area
 Branch cables carrying 61.2 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area
 Leads to lamps carrying 61.2 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area
 Cargo light cables carrying 22.5 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0225 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

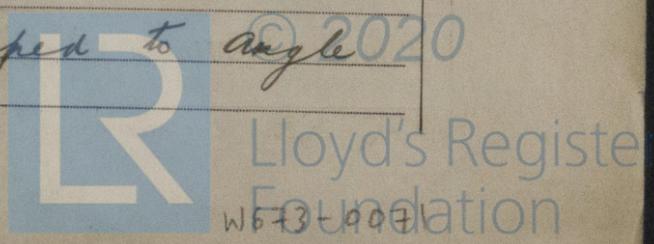
Best vulcanized rubber taped and braided, in iron pipes in tween decks & stokehold, in wood casing in engine room & fore & after accommodation & twin lead covered in saloon

Joints in cables, how made, insulated, and protected No joints

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 In iron pipes clipped to angle irons.



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 wood casing

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

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

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

How are cables carried through beams fibre bushes through bulkheads, &c. —

How are cables carried through decks iron pipes made watertight

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 Iron pipes

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 no

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 —

The installation is — supplied with a voltmeter and — 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 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2000 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.

Per pro. **FURNESS, WITBY & CO., LIMITED** Electrical Engineers Date April 23rd 1906

COMPASSES.

Distance between dynamo or electric motors and standard compass 116 feet

Distance between dynamo or electric motors and steering compass 124 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>12.7</u> Amperes	<u>8</u> feet from standard compass	<u>14</u> feet from steering compass
A cable carrying _____ Amperes	_____ feet from standard compass	_____ 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.

Per pro. **FURNESS, WITBY & CO., LIMITED** Builder's Signature. Date April 23rd 1906

GENERAL REMARKS.

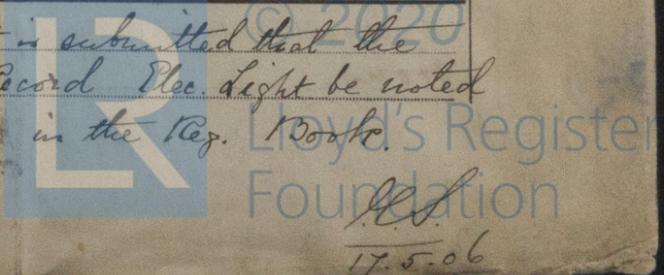
The electric installation of this vessel is fitted in accordance with the requirements of the rules & has been tested under full load & found satisfactory.

Thos. L. Houston

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

Committee's Minute _____

It is submitted that the Record Pte. light be noted in the Reg. Book.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 15.—5m.34.