

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7855

Port of Belfast Date of First Survey Mar 18 1917 Date of Last Survey Aug 29th 1917 No. of Visits 14
 No. in Reg. Book on the Iron or Steel S.S. Mahia Port belonging to Southampton
 Built at Belfast By whom Workman Clark & Bay Ltd When built 1917
 Owners Shaw Savill & Albion Coy Ltd Owners' Address London
 No. 350 Electric Light Installation fitted by J.H. Holmes & Bay, Newcastle fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Is supplied by Builders
 Coupled to one Holmes "Castle" Dynamo
 Type of Dynamos Each 200 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Is Dynamo fixed in neers aft of Engine Room. Whether single or double wire system is used Single
 Position of Main Switch Board near Dynamos having switches to groups See Special List of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each See attached list (herein)

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
 Where the double wire system is used are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits —
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 100 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

Number of lights provided for — arranged in the following groups:—

lights each of	arranged in the following groups:—	candle power requiring a total current of	Amperes
<u>2</u>	<u>Mast head lights with one lamp each</u>	<u>32</u>	<u>2.24</u>
<u>2</u>	<u>Side lights with one lamp each</u>	<u>32</u>	<u>2.24</u>
<u>16</u>	<u>Cargo lights of 6-16</u>		
<u>10</u>	<u>" " " " 4-16</u>		

are lights, what protection is provided against fire, sparks, &c. Incandescent

included in list attached

Where are the switches controlling the masthead and side lights placed in Mast Room

DESCRIPTION OF CABLES.

Main cable carrying 200 Amperes, comprised of 37 wires, each .092 L.S.G. diameter, .125 square inches total sectional area
 Branch cables carrying 16-24 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022 square inches total sectional area
 Branch cables carrying 16-8 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022 square inches total sectional area
 Leads to lamps carrying 26 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .003 square inches total sectional area
 Cargo light cables carrying 3.36 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .007 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors impregnated & tinned insulated with pure & vulcanized India Rubber, taped, lead covered, taped, & strengthened with galvanized steel wires & taped & braided & compounded overall
 Joints in cables, how made, insulated, and protected none, looping in system carried out, & special connection boxes used

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 none

How are the cables led through the ship, and how protected In accommodation & Saloon, & etc. in iron casing. In cargo spaces, Engine & Boiler spaces, galley, Scullery &c. &c. in lead lined pipes



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, then braided.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered, then braided.

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 Bushed with fibre through bulkheads, &c. Stuffing glands ✓

How are cables carried through decks in lead & then Deck Tubes, Flanged & made water tight ✓

Are any cables run through coal bunkers No 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, then braided, clipped up.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Not local bunkers but spaces

If so, how are the lamp fittings and cable terminals specially protected Cast Iron fittings with metal covers in spaces

Where are the main switches and cut outs for these lights fitted in Engine Room.

If in the spaces, how are they specially protected —

Are any switches or cut outs fitted in bunkers None

Cargo light cables, whether portable or permanently fixed Portable How fixed Socket connection.

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

How are the returns from the lamps connected to the hull with 2 turned washers, and 3/8" R. St. Brass Screw

Are all the joints with the hull in accessible positions Yes.

The installation is supplied with 4 voltmeters and 2 amperemeters, fixed on 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 _____ per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2,500 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.

Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass 168 feet approximately.

Distance between dynamo or electric motors and steering compass 162 " " "

The nearest cables to the compasses are as follows:—

A cable carrying <u>56</u> Amperes <u>inside</u> feet from standard compass <u>inside</u> feet from steering compass
A cable carrying <u>16.8</u> Amperes <u>approx. 14</u> feet from standard compass <u>approx. 10</u> feet from steering compass
A cable carrying <u>17.92</u> Amperes <u>" " 22</u> feet from standard compass <u>" " 18</u> 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 Nil degrees on all course in the case of the standard compass and Nil degrees on all course in the case of the steering compass.

W. Strachan Builder's Signature. Date 10th Sept. 1917

GENERAL REMARKS.

One pair of 7/16 lead covered, braided & braided cables run from main Switchboard to duplicate Room with 2 switches in each up Room & duplicate Room.

This installation appears to be of R. F. P. Newnham's good description, and has been fitted in accordance with the Rules Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute _____

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM NO. 15.—8/1914.