

THUR. 24 FEB 1910

Received at London Office

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6739

Port of Belfast Date of First Survey Dec 24 '09 Date of Last Survey May 1910 No. of Visits 6
 No. in Reg. Book on the Iron on Steel Port belonging to Liverpool
 Built at Belfast By whom Workman Clark & Co When built 1910
 Owners Charters S.S. Co Owners' Address Liverpool
 Yard No. 288 Electric Light Installation fitted by H. J. Robertson When fitted 1910

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo, Compound Wound Multipolar (4 pole) type, compound direct to a vertical inverted engine, single cylinder 4" dia x 6" stroke, 250 rev.
 Capacity of Dynamo 100 Amperes at 62 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine room, starting platform Whether single or double wire system is used Single wire
 Position of Main Switch Board near dynamo having switches to groups A, B, C, D, E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each no auxiliary switch boards

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 wire 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

Total number of lights provided for 86 + 2 arc arranged in the following groups:—

A	<u>21</u> lights each of <u>16</u>	candle power requiring a total current of <u>21</u>	Amperes
B	<u>14</u> lights each of <u>16</u>	candle power requiring a total current of <u>14</u>	Amperes
C	<u>10</u> lights each of <u>16</u>	candle power requiring a total current of <u>10</u>	Amperes
D	<u>10</u> lights each of <u>16</u>	candle power requiring a total current of <u>10</u>	Amperes
E	<u>25</u> lights each of <u>16</u>	candle power requiring a total current of <u>25</u>	Amperes
one	Mast head light with <u>1</u> lamp each of <u>32</u>	candle power requiring a total current of <u>32</u>	Amperes
Two	Side lights with <u>1</u> lamp each of <u>32</u>	candle power requiring a total current of <u>32</u>	Amperes
Four	Cargo lights of <u>80</u>	candle power, whether incandescent or arc lights <u>Incandescent</u>	Amperes

If arc lights, what protection is provided against fire, sparks, &c. Heavy glass hexagon lanterns protected by guards of mesh wire

Where are the switches controlling the masthead and side lights placed in Bridge wheel house

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, 1.126 square inches total sectional area
 Branch cables carrying 24 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, 0.464 square inches total sectional area
 Branch cables carrying 24 Amperes, comprised of 7 wires, each 15 L.S.G. diameter, 0.286 square inches total sectional area
 Leads to lamps carrying 1 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, 1.0078 square inches total sectional area
 Cargo light cables carrying 5 Amperes, comprised of 119 wires, each 38 L.S.G. diameter, 0.0404 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure india rubber, then vulcanizing india rubber, india rubber coated tape, the whole vulcanized together. Main cable covered with a coating of preservative compound; Lead covered cable & armoured.

Joints in cables, how made, insulated, and protected splicing joints, soldered & re-insulated with a layer of felt tape built up with several layers of pure rubber tape, a covering layer of proof tape & coated with insulating varnish

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, none in the spaces

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 over the top of the bridge deck from the engine room to saloon in 2" galv iron pipe, for & aft on bulkhead rails, all lead covered cable & armoured cables.

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
in galley iron pipes in part ✓
 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 Lead covered & armoured ✓
 What special protection has been provided for the cables in engine room Lead covered & armoured ✓
 How are cables carried through beams in fibre jerries ✓ through bulkheads, &c. in fibre jerries & stands ✓
 How are cables carried through decks in galley iron pipes lined with fibre ✓
 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 2 lit only under bridge deck ✓
 If so, how are the lamp fittings and cable terminals specially protected strong cast iron fittings & hinges covered ✓
 Where are the main switches and cut outs for these lights fitted in engine room & branch switches in stateroom ✓
 If in the spaces, how are they specially protected no ✓
 Are any switches or cut outs fitted in bunkers no ✓
 Cargo light cables, whether portable or permanently fixed portable ✓ How fixed no ✓
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel By large brass stud & bracket on ✓
 How are the returns from the lamps connected to the hull By 3/8" Brass (tinman) screw - dynamo pole piece ✓
 Are all the joints with the hull in accessible positions yes ✓
 The installation is no supplied with a voltmeter and with ✓ an amperemeter, fixed on switch board ✓

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 no ✓
 Are any switches, cut outs, 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 no ✓

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 2500 ✓ 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.

A. J. Robertson & Co

Electrical Engineers

Date 3rd February 1910

COMPASSES.

Distance between dynamo or electric motors and standard compass 96 feet ✓
 Distance between dynamo or electric motors and steering compass 106 feet ✓
 The nearest cables to the compasses are as follows:—
 A cable carrying 24 Amperes 14 feet from standard compass 20 feet from steering compass
 A cable carrying 1 Amperes 5 feet from standard compass 4 feet from steering compass
 A cable carrying 0 Amperes into feet from standard compass into 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 1/2 ✓ degrees on every course in the case of the standard compass and 1/2 ✓ degrees on every course in the case of the steering compass.

PRO WORKMAN, CLARK & CO., LIMITED,

Builder's Signature. Date

GENERAL REMARKS.

This installation appears to be of good
description, and has been fitted in accordance with
the Rules

It is submitted that
 this vessel is eligible for
 THE RECORD. Elec. light. JUR 24/2/10

R. J. Brown & Co
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.