

REPORT ON ELECTRIC LIGHTING INSTALLATION, No. 5559

Port of Belfast Date of First Survey 15 Jan 1903 Date of Last Survey 20 Feb 1903 No. of Visits 8
 No. in Reg. Book 133 on the SS. Wayfarer Port belonging to Liverpool
 Built at Belfast By whom Workman Cable Works When built 1903
 Owners Mr. T. J. Harrison Owners' Address Liverpool
 Yard No. 195 Electric Light Installation fitted by W. H. Allen & Co., L. When fitted 1903

DESCRIPTION OF DYNAMO, ENGINE, ETC.

one single cylinder engine coupled direct to a triplex dynamo
 Capacity of Dynamo 150 Amperes at 62 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed on bottom platform starboard side aft. engine room
 Position of Main Switch Board beside dynamo having switches to groups ABC of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each

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 when double wired
 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

Total number of lights provided for 162 arranged in the following groups:—

A <u>Signal & alarm</u> 53 lights each of <u>16</u> candle power requiring a total current of <u>53</u> Amperes
B <u>Machinery spaces</u> 61 lights each of <u>16</u> candle power requiring a total current of <u>61</u> Amperes
C <u>arc & cargo</u> 48 lights each of <u>16</u> candle power requiring a total current of <u>48</u> Amperes
D <u>Projector</u> — lights each of — candle power requiring a total current of — Amperes
E — lights each of — candle power requiring a total current of — Amperes
<u>1</u> Mast head light with <u>2</u> lamps each of <u>32</u> candle power requiring a total current of <u>2</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>4</u> Amperes
<u>8</u> Cargo lights of <u>6 x 16 = 96</u> candle power, whether incandescent or arc lights <u>incandescent</u>

If arc lights, what protection is provided against fire, sparks, &c. also 3 25 ampere arc lamps with heavy brass framed lanterns, plate glass panes & wire netting frame
 Where are the switches controlling the masthead and side lights placed in wheelhouse in bridge.

DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .190 square inches total sectional area
 Branch cables carrying 35 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .035 square inches total sectional area
 Branch cables carrying 50 Amperes, comprised of 19 wires, each 17 L.S.G. diameter, .048 square inches total sectional area
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .032 square inches total sectional area
 Cargo light cables carrying 6 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .004 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

wires insulated with layers of paper & vulcanized rubber protected with strong riding of hemp then lead sheathed, sewed with putty & finally covered with galvanizer flat iron wiring.
 Joints in cables, how made, insulated, and protected none except in rooms. These soldered insulated with vulcanite & 30 cent tape, furnished

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
 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 galvanized iron pipe laid on the deck, free & aft.



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 sheathed
sewed and rammed hmi employed.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Shiny wood casing.

What special protection has been provided for the cables near boiler casings Lead sheathed sewed & rammed.

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

How are cables carried through beams None through beams through bulkheads, &c. Iron plates

How are cables carried through decks all in pipe on deck

Are any cables run through coal bunkers No or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage No

If so, how are they protected _____

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 _____

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel iron socket in dynamo plate piece

How are the returns from the lamps connected to the hull to iron cut down (8' down)

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

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 installation is (1) supplied with a voltmeter and (1) an amperemeter, fixed on switchboard

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 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.

M. W. Haffey & Co.
C. P. Hunter, Electrical Engineers Date 23/2/13

COMPASSES.

Distance between dynamo or electric motors and standard compass about 160 feet

Distance between dynamo or electric motors and steering compass " "

The nearest cables to the compasses are as follows:—

A cable carrying 0 Amperes 20 25 feet from standard compass 20 feet from steering compass

A cable carrying (all wiring in vicinity of compasses in) feet from standard compass _____ feet from steering compass

A cable carrying dark wire system 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 every course in the case of the standard compass and nil degrees on every course in the case of the steering compass.

W. Workman, Clark & Co., Limited
W. Brachan Builder's Signature. Date 27th Feb 1903.

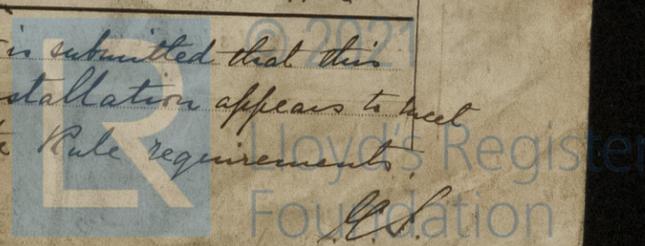
GENERAL REMARKS.

This installation appears to be of the best description as regards material and workmanship and has been fitted in accordance with the Rules of the Register.

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

Committee's Minute _____

It is submitted that this installation appears to meet the Rule requirements.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.