

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8112

Port of Belfast Date of First Survey April 9 Date of Last Survey May 7 No. of Visits Five  
 No. in Reg. Book on the Iron or Steel S.S. Nasmyth Port belonging to Liverpool  
 Built at Belfast By whom Harland & Wolff L<sup>rs</sup> When built 1919  
 Owner Liverpool Brazil & Peru Plate Owners Address Liverpool  
 Yard No. 546 Electric Light Installation fitted by Harland & Wolff L<sup>rs</sup> When fitted 1919

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

One enclosed forced lubrication, single cylinder engine & dynamo, with cylinder 5 1/2" x 5" stroke, speed 520 R.P.M.  
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is dynamo fixed in engine room Whether single or double wire system is used Double  
 Position of Main Switch Board in engine room 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 -----

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes  
 Are the fuses of non-oxidisable metal yes and constructed to fuse at an excess of 100 per cent over the normal current  
 Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 165 arranged in the following groups:—  
 A Navigation 5 lights each of 32 C.P. & 5 lbs of 8 candle power requiring a total current of 8.5 Amperes  
 B Cabin & Crew 94 lights each of 16 C.P. candle power requiring a total current of 19.1 Amperes  
 C Engine & Boiler lights each of 16 C.P. candle power requiring a total current of 15.9 Amperes  
 D Cargo 30 lights each of 16 C.P. candle power requiring a total current of 15.0 Amperes  
 E Wireless lights each of ----- candle power requiring a total current of 15.0 Amperes  
2 Mast head lights with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes  
2 Side lights with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes  
5 Cargo lights of 90 candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. 633

Where are the switches controlling the masthead and side lights placed In chart room

### DESCRIPTION OF CABLES.

Main cable carrying 19.1 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Branch cables carrying 2.5 Amperes, comprised of 1 wires, each 14 S.W.G. diameter, .005 square inches total sectional area  
 Branch cables carrying ----- Amperes, comprised of ----- wires, each ----- S.W.G. diameter, ----- square inches total sectional area  
 Leads to lamps carrying 1.8 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .00246 square inches total sectional area  
 Cargo light cables carrying 2.5 Amperes, comprised of 90 wires, each 36 S.W.G. diameter, .00407 square inches total sectional area

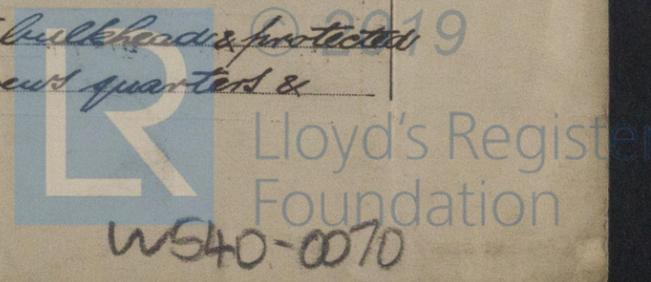
### DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables & branch wiring exposed are 600 megohm C. to A. grade. Vulcanised india rubber armoured & white braided also 1/4 a. p. 254 lead covered cable.  
 Joints in cables, how made, insulated, and protected Joints made in W.T. Junction boxes on decks & porcelain junction boxes with iron protecting cover in engine room.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Cables clipped direct to bulkheads & protected by armouring & braiding in Eng. Rm, galley & crew quarters & lead cover in accom<sup>ny</sup>.



**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 in piping

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured & braided cables.

What special protection has been provided for the cables near boiler casings Armoured & braided cables.

What special protection has been provided for the cables in engine room Armoured & braided cables.

How are cables carried through beams Beams bushed with lead or fibre through bulkheads, &c. In glands if w.t. otherwise lead or fibre.

How are cables carried through decks In Iron deck pipes, bushed or with glands.

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

If so, how are they protected As k cables in Galvanised iron tubes.

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 fuses for these lights fitted —

If in the spaces, how are they specially protected —

Are any switches or fuses fitted in bunkers no

Cargo light cables, whether portable or permanently fixed Permanently How fixed Armoured & braided cable clipped to bulkhead

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 —

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed in Subd in Eng Room.

**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas —

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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 14/5/19

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 112 ft from Dynamo 103 ft from Wireless Rotary

Distance between dynamo or electric motors and steering compass 112 " " " 103 " " " "

The nearest cables to the compasses are as follows:—

A cable carrying	6.0 Amperes	10 feet from standard compass	5 feet from steering compass
A cable carrying	15.0 Amperes	26 feet from standard compass	22 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 all courses in the case of the standard compass and nil degrees on all courses in the case of the steering compass.

For HARLAND & WOLFF Ltd. Builder's Signature. Date 14.5.19.

**GENERAL REMARKS.**

This installation is 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.

HWD  
19/5/19.

R. J. Beveridge  
Surveyor to Lloyd's Register of Shipping.

163, 118—Treasurer

Committee's Minute



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