

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 36411

Port of Glasgow Date of First Survey 11-5-16 Date of Last Survey 21-10-16 No. of Visits 36
 No. in Reg. Book on the Iron or Steel M. S. Glenamoy Port belonging to Glasgow
 Built at Govan, Glasgow By whom Messrs Harland & Wolff Ltd When built 1916
 Owners Glen Line (McGregor, Gov. & Co.) Owners' Address 1 East India Ave. London E.C.6.
 Yard No. 4689 Electric Light Installation fitted by Messrs Harland & Wolff Ltd When fitted 1916

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Messrs Lawrence Scott & Co's Dynamos 200 kW. 220 Volts 910 amps @ 200 R.P.M. &c. to Messrs Burmeister & Wain Engines 4/80H Cylinders.

Capacity of Dynamo 910 Amperes at 220 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Motor Room Whether single or double wire system is used Double
 Position of Main Switch Board Motor Room having switches to groups A. B. C. & D. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Auxiliary Switchboard in Workshop controlling the Trocham Dynamo with fuses controlling the auxiliary circuit to Wireless.
 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 Tinned Copper 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 No. 33 S.W.G. 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. Porcelain

Total number of lights provided for 475 1 Morse Lantern arranged in the following groups :-
 A Capt. Signals 42 lights each of 27 2/16 CP 5 @ 32 CP candle power requiring a total current of 15.1 Amperes
5 Morse Lantern 6 @ 3 CP 14 @ 2 1/2 CP
 B Accommodation 159 lights each of 16 CP. 1 2.3 Fans candle power requiring a total current of 54.3 Amperes
 C Mach. Spaces 123 lights each of 15 candle power requiring a total current of 36.9 Amperes
 D Barge & Arco 144 lights each of 16 CP. 2-10 amp candle power requiring a total current of 58.4 Amperes
Arco Lamps
 E Pilot Lights 7 lights each of 16 candle power requiring a total current of 2.1 Amperes
2 Mast head lights with 2 lamps each of 32 candle power requiring a total current of 1.2 Amperes
2 Side light with 2 lamps each of 32 candle power requiring a total current of 1.2 Amperes

Eighteen 8-16 CP. Cargo lights 2-10 amp Arco Lamps candle power, whether incandescent or arc lights both
 If arc lights, what protection is provided against fire, sparks, &c. Glass Hexagon Lantern around
Arco

Where are the switches controlling the masthead and side lights placed in Wheelhouse.

DESCRIPTION OF CABLES.

Main cable carrying 86 Amperes, comprised of 19 wires, each 15 S.W.G. diameter, .045 square inches total sectional area
 Branch cables carrying 36.9 Amperes, comprised of 19 wires, each 18 S.W.G. diameter, .034 square inches total sectional area
 Branch cables carrying 15.1 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
 Leads to lamps carrying 2.4 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .003 square inches total sectional area
 Cargo light cables carrying 2.4 Amperes, comprised of 90 wires, each 36 S.W.G. diameter, .004 square inches total sectional area

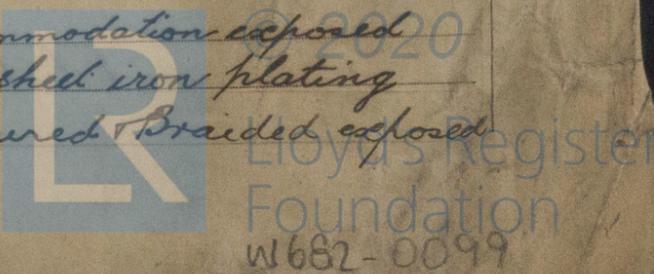
DESCRIPTION OF INSULATION, PROTECTION, ETC. Cables throughout of 2,500 Meg. quality classed to C.A. insulated with pure and Vulcanised Rubber protected with Lead covering in Accommodation. Cables in Motor Room and where run along exposed Deck further protected by steel Armouring & Braiding.

Joints in cables, how made, insulated, and protected None.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — 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 Lead Covered in Accommodation exposed Lead Covered Armoured & Braided protected by steel iron plating where run along exposed Deck. Lead covered Armoured & Braided exposed throughout Motor Room



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.

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

What special protection has been provided for the cables near boiler casings No Boiler Room

What special protection has been provided for the cables in engine room Lead covered Armoured Braided exposed

How are cables carried through beams Beams bushed with Lead through bulkheads, &c. in Glands if A.S.

How are cables carried through decks in bushed S.S. Deck Tubes

Are any cables run through coal bunkers — 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 —

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 —

Cargo light cables, whether portable or permanently fixed Permanent to Socket Flexible to Socket. How fixed Where Permanent Lead covered Armoured & Braided

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 to Switchboard.

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 2500 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.

FOR HARLAND & WOLFF, LTD. Asikinson Managing Director Electrical Engineers Date 27th October 1916

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 feet

Distance between dynamo or electric motors and steering compass 72 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>20</u>	<u>15</u>	<u>10</u>	<u>10</u>
<u>15.1</u>	<u>10</u>	<u>6</u>	<u>6</u>
<u>2.1</u>	<u>8</u>	<u>5</u>	<u>5</u>

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 the course in the case of the standard compass and nil degrees on all the course in the case of the steering compass.

FOR HARLAND & WOLFF, LTD. Asikinson Managing Director Builder's Signature. Date 27th October 1916

GENERAL REMARKS.

This installation has been fitted under special survey, tried under full working conditions and found satisfactory.

It is submitted that this vessel is eligible for THE RECORD Elec. Light. As above. Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute GLASGOW 7 - NOV. 1916

Electric Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

LM-11 6/11/16