

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17222.

Port of Glasgow Date of First Survey 16th Oct, 1914, Date of Last Survey 12th Dec, 1914, No. of Visits 21
 No. in Reg. Book of the Iron or Steel R.F.A. Elond Port belonging to _____
 Built at Port Glasgow By whom The Clyde S & C. Ltd. When built 1917
 Owners The Admiralty Owners' Address _____
 Yard No. 329 Electric Light Installation fitted by H. J. Boothroyd Ltd. When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Admiralty Standard Plant

Capacity of Dynamo 90.52 Amperes at 105 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 Near Dynamo having switches to groups Four of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each None fitted

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-oxidizable 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 160 arranged in the following groups:—
 A 24 lights each of 16 candle power requiring a total current of 12 Amperes
 B 44 lights each of 16 candle power requiring a total current of 22 Amperes
 C 39 lights each of 16 candle power requiring a total current of 20 Amperes
 D 14 lights each of 16 candle power requiring a total current of 9 Amperes
 E _____ lights each of _____ candle power requiring a total current of _____ Amperes
 1 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1.1 Amperes
 2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.2 Amperes
 4 Cargo lights of 8-50 each candle power, whether incandescent or arc lights Incandescent

If arc lights, what protection is provided against fire, sparks, &c. One arc lamp is fitted for signalling also
One 10" dia Signalling Projector. Both of Adm. Patt. protected in the usual way.
 Where are the switches controlling the masthead and side lights placed In Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 90.5 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area
 Branch cables carrying 48.5 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .046 square inches total sectional area
 Branch cables carrying 38 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .046 square inches total sectional area
 Leads to lamps carrying 1/2 to 2 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .0025 square inches total sectional area
 Cargo light cables carrying 15 Amperes, comprised of 19 wires, each 20 S.W.G. diameter, .019 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

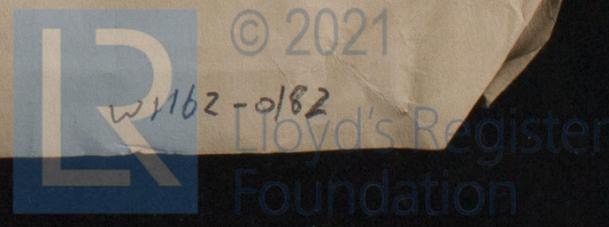
V.I.R. Lead Covered Adm. Patt. Cables
Run on steel trays or in tubing where necessary

Joints in cables, how made, insulated, and protected No joints except mechanical ones.

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 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 Lead covered especially clipped to steel trays or in tubing where necessary



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 *Tubing - Galv. Wrot Iron*

What special protection has been provided for the cables near galley or oil lamps or other sources of heat *do*

What special protection has been provided for the cables near boiler casings *do*

What special protection has been provided for the cables in engine room *Metal Trays*

How are cables carried through beams *Lead or Fibre bushes* through bulkheads, &c. *Adm. Patt. Glands*

How are cables carried through decks *Adm. Patt. Deck Tubes*

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*

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 *Portable* How fixed *To Adm. Patt. Connectors*

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 *On 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 *Yes*

Are any switches, fuses, 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 *In Special Gas Lig. Mt. Fittings*

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.

H. T. Boothroyd Limited,
J. Whitehead. Electrical Engineers Date *31 January 1918.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *About 160 feet.*

Distance between dynamo or electric motors and steering compass *" 150 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>12</i>	Amperes	<i>In Instrument</i>	feet from standard compass	<i>In Instrument</i>	feet from steering compass
A cable carrying	<i>17</i>	Amperes	<i>18</i>	feet from standard compass	<i>10</i>	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 *---*

The maximum deviation due to electric currents, etc., was found to be _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

ELECTRICAL ENGINEERS **H. T. BOOTHROYD, LIMITED** SIGNATURE. *Bruce H. Auld* Builder's Signature. Date *1st February, 1918.*

GENERAL REMARKS.

The workmanship & materials are good on completion the installation was tried under full load with satisfactory results. The work was carried out in accordance with the Admiralty specification.

It is submitted that this vessel is eligible for

THE RECORD. Elec. Light. *JWD 4/2/18.* *ARK* Secretary. Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW** *12 FEB. 1918*
Elec. Light *JWD*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.