

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17503.

Port of Greenock Date of First Survey 4th June, 1919 Date of Last Survey 30th July, 1919 No. of Visits 16
 No. in Reg. Book on the Iron or Steel Steam Beckpark Port belonging to Greenock
 Built at Greenock By whom Greenock & Tait & Co When built 1919
 Owners Dunholm Shipping Co Ltd Owners' Address Greenock
 Yard No. 595 Electric Light Installation fitted by Boothroyd & Co When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Boothroyd Compound Wound Multipolar Dynamo direct coupled to Thindley Vertical Enclosed High Speed Engine.
 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 Near Dynamo having switches to groups Five and one for wireless 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 135 arranged in the following groups:—

A	<u>18</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>9</u>	Amperes
B	<u>29</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>15</u>	Amperes
C	<u>38</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19</u>	Amperes
D	<u>16</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>8</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.2</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>2.2</u> Amperes
	<u>5-6</u>	light Cargo lights of	<u>16</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

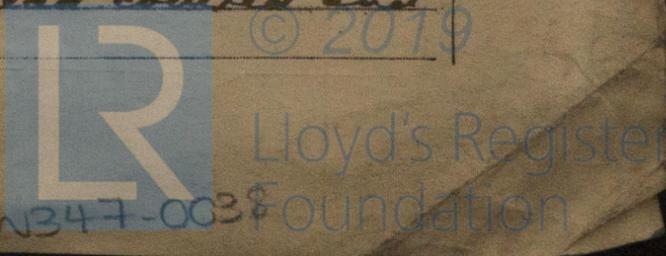
If arc lights, what protection is provided against fire, sparks, &c. No Arcs Fitted
 Where are the switches controlling the masthead and side lights placed In Chart House

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area
 Branch cables carrying 19 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
 Branch cables carrying 15 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
 Leads to lamps carrying 1/2 to 2 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.I.R. Taped & Lead Covered Cables - encased in exposed places with galvanized steel wire armour of standard dimension and carried in tubes up masts.
 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 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 On the surface - lead covered and armoured - and efficiently clipped.



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 and
 armoured or carried in tube where necessary.
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat ditto
 What special protection has been provided for the cables near boiler casings ditto
 What special protection has been provided for the cables in engine room ditto
 How are cables carried through beams Lead or Fibre Bushes through bulkheads, &c. Watertight Flanges
 How are cables carried through decks Galvanized Deck Tubes made Watertight
 Are any cables run through coal bunkers Yes or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes
 If so, how are they protected as described above.
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes.
 If so, how are the lamp fittings and cable terminals specially protected In Specially Guarded Fittings.
 Where are the main switches and fuses for these lights fitted In the Engine Room.
 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 heavy terminal boxes
 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 —
 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.

H. S. Boothroyd (Port Glasgow) Ltd.
of Whitehead
 Electrical Engineers
 many Directors

Date 20 August 1919

COMPASSES.

Distance between dynamo or electric motors and standard compass 110 feet (approx.)
 Distance between dynamo or electric motors and steering compass 100 feet (approx.)

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Distance from standard compass	Distance from steering compass
<u>32</u>	<u>32</u>	<u>In Instrument</u> feet from standard compass	<u>In Instrument</u> feet from steering compass
<u>1.1</u>	<u>6</u>	<u>6</u> feet from standard compass	<u>6</u> feet from steering compass
<u>5</u>	<u>10</u>	<u>10</u> feet from standard compass	<u>8</u> 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 No. degrees on Any course in the case of the standard compass and No. degrees on Any course in the case of the steering compass.

J. Muller
 DIRECTOR

Builder's Signature. Date 22 August 1919

GENERAL REMARKS.

The fittings of the wires in this vessel are as stated in their
 report and appear to be in accordance with the Committee's
 requirements

It is submitted that
 this vessel is eligible for
 THE RECORD, Elec. Light.

James James
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW
Elec. Light. No
4/9/19.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN

