

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 17095. FEB. 24 JAN. 1917

Port of Greenock Date of First Survey 31. 10. 16; Date of Last Survey 27. 12. 16; No. of Visits 16
 No. in on the Iron or Steel S.S. "ARDBASK." Port belonging to _____
 Reg. Book _____ Built at Greenock By whom Russell & Co When built 1917
 Owners Steamship Company Ltd Owners' Address _____
 Yard No. 697 Electric Light Installation fitted by Bennett & Rutherford When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

The combined coupled Plant 4x6 open type Vertical
 Engine no. 2366, coupled direct to 14 pole Direct Current Dynamo no. 5356
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Main Engine Room Platform Whether single or double wire system is used Double
 Position of Main Switch Board near Dynamo having switches to groups six of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Engine Room, Saloon, Pantry, Chart Room, Forecastle, Engineers Mess Room.

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 _____

Are the fuses of non-oxidisable metal Yes and constructed to fuse at an excess of 25 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 114 arranged in the following groups:—

A	<u>16</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>9.6</u>	Amperes
B	<u>24</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>14.4</u>	Amperes
C	<u>20</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12.0</u>	Amperes
D	<u>29</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>14.4</u>	Amperes
E	<u>25</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>10.0</u>	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>1.2</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>1.2</u>	Amperes
	<u>5</u>	Cargo lights of	<u>125</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 40 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .0934 square inches total sectional area
 Branch cables carrying 9 Amperes, comprised of 4 wires, each 18 S.W.G. diameter, .0124 square inches total sectional area
 Branch cables carrying 14 Amperes, comprised of 4 wires, each 16 S.W.G. diameter, .0221 square inches total sectional area
 Leads to lamps carrying 2.5 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In accommodation cables are protected by Pure and Vulcanised rubber, Taped & Braided together and served with Lead Covering. In holes etc. with Galvanized wires
 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 clipped to deck in tween decks, Engine Room, armoured cables are used.



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 Armoured

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

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

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

How are cables carried through beams through lead ferrules through bulkheads, &c. W. I. glands ✓

How are cables carried through decks Iron deck tubes ✓

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

If so, how are they protected Armoured

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 —

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 Main 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.

Dennett & Rutherford Electrical Engineers Date 24th December 1916

COMPASSES.

Distance between dynamo or electric motors and standard compass 120 feet

Distance between dynamo or electric motors and steering compass 120 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>6</u> Amperes	<u>one</u> feet from standard compass	<u>one</u> feet from steering compass
A cable carrying <u>2</u> Amperes	<u>three</u> feet from standard compass	<u>three</u> 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 any course in the case of the standard compass and Nil degrees on any course in the case of the steering compass.

Russell J. S. R. Smith Builder's Signature. Date 15 Jan 1917

GENERAL REMARKS.

The materials & workmanship are good on completion. The installation was tried under full load with satisfactory results.

It is submitted that this vessel is eligible for THE BROOD. Elec. light.

JWD 1/21/17

Harbottle
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 23 JAN. 1917

Elec. Light



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

23/1/17

1cc. 1. 16.—Transfer.