

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17493.

Port of Greenock Date of First Survey 6th June, 1919 Date of Last Survey 5th July, 1919 No. of Visits 15
 No. in Reg. Book on the Iron or Steel Screw Steamer SAINT BEDE Port belonging to Liverpool
 Built at Port Glasgow By whom Glasgow, Limited When built 1919
 Owners Rankin, Gilmore & Co. Limited Owners' Address Glasgow
 Yard No. 723 Electric Light Installation fitted by Mrs Bennett and Rutherford When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One combined coupled Plant 6 1/2 x 6 Open Type Vertical Engine
No 34568 coupled direct to Compound Wound Dynamo No 104514 running at 300 revs. per minute
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Main Platform Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board Near Dynamo having switches to groups seven of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Crew's Quarters, Saloon, Navigation Engine Room, Engineers' Quarters, Clusters & 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 cessel 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 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 122 arranged in the following groups:—

Group	Number of Lights	Lights each of	Candle Power	Amperes
A	<u>24</u>	<u>16</u>	<u>15.3</u>	<u>Amperes</u>
B	<u>19</u>	<u>16</u>	<u>12.1</u>	<u>Amperes</u>
C	<u>14</u>	<u>16</u>	<u>10.8</u>	<u>Amperes</u>
D	<u>22</u>	<u>16</u>	<u>14.0</u>	<u>Amperes</u>
E	<u>10</u>	<u>16</u>	<u>6.4</u>	<u>Amperes</u>
2 Mast head light with 1 lamps each of		<u>32</u>	<u>1.2</u>	<u>Amperes</u>
2 Side light with 1 lamps each of		<u>32</u>	<u>1.2</u>	<u>Amperes</u>
5 Cargo lights of		<u>90</u>		
3 - 8 amp Arc Lamps				

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

Totally enclosed type with internal resistance

Where are the switches controlling the masthead and side lights placed Chartroom

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 34 wires, each 16 S.W.G. diameter, .1176 square inches total sectional area
Branch cables carrying 19 Amperes, comprised of 4 wires, each 16 S.W.G. diameter, .0222 square inches total sectional area
Branch cables carrying 10 Amperes, comprised of 4 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area
Cargo light cables carrying 4 Amperes, comprised of 4 wires, each 22 S.W.G. diameter, .0042 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In Accommodation cables are protected by pure & vulcanised india rubber, taped and vulcanised together, thereafter served with lead covering. In Holds, Engine Room etc., cables are armoured with galvanized iron wires.

Joints in cables, how made, insulated, and protected No joints in ship, extension boxes used where necessary.

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 Clipped to fore and aft beams and to decks, all armoured cables.

Admit

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, flanged & bolted

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 2000 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.

Bennett & Rutherford* Electrical Engineers Date 16th July 1919

COMPASSES.

Distance between dynamo or electric motors and standard compass 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	<u>.6</u>	Amperes	<u>one</u>	feet from standard compass	<u>one</u>	feet from steering compass
A cable carrying	<u>1.2</u>	Amperes	<u>four</u>	feet from standard compass	<u>two</u>	feet from steering compass
A cable carrying	<u>8.0</u>	Amperes	<u>ten</u>	feet from standard compass	<u>twelve</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 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.

For LITHGOWS LIMITED.

W B Allan Director & Secretary Builder's Signature. Date 21 July 1919

GENERAL REMARKS.

This vessel is wired as stated in the report and appears to be in accordance with the Rules of the Society.

It is submitted that this vessel is eligible for

THE RECORD: ELEC. LIGHT.

Reel 30/7/19.

Geo. A. Spring

Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 29 JUL 1919

Elec. Light.

gls



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.