

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 19540 GPK
39198 Gls.

Port of Glasgow. Date of First Survey 15.9.19 Date of Last Survey 25.9.19 No. of Visits 3
 No. in Reg. Book 29913 on the Iron or Steel S.S. War. Gaekwar. Port belonging to London
 Built at Port Glasgow. By whom Messrs Lithgow Ltd When built 1919
 Owners The Shipping Control Owners' Address London
 Yard No. 419. Electric Light Installation fitted by Messrs Grundy Ross & Co When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

10 K.W. Clark, Chapman Sets

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Bottom Platform (Starboard) Whether single or double wire system is used Double
 Position of Main Switch Board Close to Dynamo having switches to groups _____ of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each one Section Box placed at Top of Engine 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-oxidizable metal _____ 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 129 arranged in the following groups:—

A	<u>Navigation</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>3.2</u>	Amperes
B	<u>Saloon</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>7.2</u>	Amperes
C	<u>Coop</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>12.8</u>	Amperes
D	<u>Windows</u> lights each of	<u>—</u>	candle power requiring a total current of	<u>15.0</u>	Amperes
E	<u>Engine Room</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>21.7</u>	Amperes
	<u>2 Mast head light with 2 lamps each of</u>	<u>32</u>	candle power requiring a total current of	<u>2.56</u>	Amperes
	<u>2 Side light with 2 lamps each of</u>	<u>32</u>	candle power requiring a total current of	<u>2.56</u>	Amperes
	<u>12 Cargo lights of</u>	<u>16</u>	candle power, whether incandescent or arc lights		

If arc lights, what protection is provided against fire, sparks, &c. None
 Where are the switches controlling the masthead and side lights placed Chart House

DESCRIPTION OF CABLES.

Main cable carrying 65 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 4 wires, each 14 S.W.G. diameter, .017 square inches total sectional area
 Branch cables carrying 12.8 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 3.8 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.I.R. Lead covered cables in accommodation & V.I.R. Cables with single wire armouring & branching in Engine Room and Tween Decks
 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 Armoured



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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 _____

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

What special protection has been provided for the cables near boiler casings run in tubing

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

How are cables carried through beams through bushed holes through bulkheads, &c. through glands ✓

How are cables carried through decks through 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 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 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 Switch Board

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 gas tight 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.

Grindlay Ross & Co Ltd

Electrical Engineers

Date 19th Nov^r 1919.

COMPASSES.

Distance between dynamo or electric motors and standard compass 100 ft.

Distance between dynamo or electric motors and steering compass 95 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>8</u>	Amperes	<u>12</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>7.2</u>	Amperes	<u>20</u>	feet from standard compass	<u>16</u>	feet from steering compass
A cable carrying	<u>20</u>	Amperes	<u>90</u>	feet from standard compass	<u>86</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 22nd Nov 1919.

GENERAL REMARKS.

This Installation has been fitted on board under special survey. Tested under full working load for a period of six hours & found satisfactory.

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

W.D. 4/12/19.

J. Stanley Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 2nd DEC 1919

Elec. Light.

W.B. Allan



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

JAC.
29.11.19

No. 116—Transfer.