

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 39276

Port of Glasgow Date of First Survey 14.2.19 Date of Last Survey 7.10.19 No. of Visits 9
 No. in Reg. Book on the ~~Iron~~ Steel S.M.T.S.M. Bradfield Port belonging to London
 Built at Irvine By whom M^{rs} The Ayrshire Dock Co. When built 1919
 Owners The Admiralty Owners' Address London
 Yard No. 481 Electric Light Installation fitted by M^{rs} A.A. Anderson & Co. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two - steam driven horizontal wound dynamos 19 K.W.
direct coupled, makers: W. A. Allen Ltd.
 Capacity of Dynamo 120 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Engine Room (Port & Starboard) Whether single or double wire system is used Double
 Position of Main Switch Board Engine Room (Starboard) having switches to groups 8 circuits of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1 Junction Box in Engine Room
having no switches

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-oxidisable metal yes and constructed to fuse at an excess of 10% 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 170 arranged in the following groups:—

A <u>Engine Room</u> 32 lights each of <u>16</u> candle power requiring a total current of <u>26</u> Amperes
B <u>Forward</u> 42 lights each of <u>16</u> candle power requiring a total current of <u>21</u> Amperes
C <u>Aft</u> 39 lights each of <u>16</u> candle power requiring a total current of <u>20</u> Amperes
D <u>Navigation</u> 11 lights each of <u>16</u> candle power requiring a total current of <u>7</u> Amperes
E <u>W/17 + 10 Arc</u> 4 lights each of <u>16</u> candle power requiring a total current of <u>13</u> Amperes
<u>1 Mast head light with 1 lamps each of 32</u> candle power requiring a total current of <u>1</u> Amperes
<u>2 Side light with 1 lamps each of 32</u> candle power requiring a total current of <u>1</u> Amperes

2 Groups of 8 Cargo lights of 32 C.P. candle power, whether incandescent or arc lights Incandescent 16 amperes
 If arc lights, what protection is provided against fire, sparks, &c. 10" Arc Lamps Admiralty pattern Projector

Where are the switches controlling the masthead and side lights placed Wheel House

DESCRIPTION OF CABLES.

2 B Main cable carrying 120 Amperes, comprised of 3 1/2 wires, each 15 S.W.G. diameter, 1500 square inches total sectional area
 Branch cables carrying 60 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, 09372 square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, 012460 square inches total sectional area
 Leads to lamps carrying 2.5 Amperes, comprised of 1 wires, each 14 S.W.G. diameter, 002463 square inches total sectional area
 Cargo light cables carrying 16 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, 012460 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.P.R. and Lead covered all Admiralty Pattern
 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 None 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 None
 Are there any joints in or branches from the cable leading from dynamo to main switch board None
 How are the cables led through the ship, and how protected Lead covered fixed to prepared tray



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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 Lead covered.

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

What special protection has been provided for the cables near boiler casings Distance brackets perforated Gray

What special protection has been provided for the cables in engine room Lead covered + perforated Gray

How are cables carried through beams Lead Bushes through bulkheads, &c. Waste light Glands

How are cables carried through decks W.T. 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 Permanent + Portable How fixed clipped to Day

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 Switch Bd.

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 1000 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.

For ALEXANDER ANDERSON Mr. Anderson Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass measure throo of plan

Distance between dynamo or electric motors and steering compass DO.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>.25</u>	Amperes	<u>3</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>.25</u>	Amperes	<u>10</u>	feet from standard compass	<u>8</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.

D. M. Ball Builder's Signature. Date 16-11-19

GENERAL REMARKS.

This installation has been fitted on board under special survey. Tested under full working conditions in presence of an Admiralty Inspecting Officer found satisfactory. The following gear had not been received from the Admiralty at sailing date:— 10" Projector Tripods, 1 Damming Switch, & Hand Flashing Lamp.

It is submitted that this vessel is eligible for THE LLOYD ELEC. LIGHT 20/11/19. J. Stanley Rankin Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 18 NOV 1919
Elec: Light. JMA

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

No. 110—Treasurer.

