

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 35489

Port of Glasgow Date of First Survey 17/6/15 Date of Last Survey Sept 17/15 No. of Visits 15
 No. in Reg. Book on the Iron and Steel 3/4 "WHEATSHEAF" Port belonging to Cardiff
 Built at Archershan By whom Anderson D.D. & S.B. 88 (1863) When built 1915
 Owners Spillers & Co Ltd Owners' Address Barnes & Hurstford When fitted 1915
 Yard No. 263 Electric Light Installation fitted by Barnes & Hurstford

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Combined Coupler Plant, open type Vertical Engine direct coupled to Compound wound Dynamo
 Capacity of Dynamo Thirty Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board near Dynamo having switches to groups 3 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Fuseboards, one Engine Room one Pantry one Forecastle.

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 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 61 arranged in the following groups :-

A	<u>11 1/2</u> lights each of	<u>16</u> candle power requiring a total current of	<u>6</u> Amperes
B	<u>23</u> lights each of	<u>16</u> candle power requiring a total current of	<u>12.2</u> Amperes
C	<u>22</u> lights each of	<u>16</u> candle power requiring a total current of	<u>12.0</u> Amperes
D	lights each of	candle power requiring a total current of	Amperes
E	lights each of	candle power requiring a total current of	Amperes
1	Mast head light with <u>1</u> lamps each of	<u>32</u> candle power requiring a total current of	<u>1</u> Amperes
2	Side light with <u>1</u> lamps each of	<u>32</u> candle power requiring a total current of	<u>1</u> Amperes
2	Cargo lights of	<u>80 (each)</u> candle power, whether incandescent or arc lights	

If are 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 30 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .035 square inches total sectional area
 Branch cables carrying 6 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .004 square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .012 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .003 square inches total sectional area
 Cargo light cables carrying 2.4 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In accommodation cables are protected by tape & vulcanized Rubber. Yaps & Braided, & Mercapaw served with lead Armousing. In Holds etc with Armoured 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 bunks, 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 No
 How are the cables led through the ship, and how protected Clipped to deck, cables all iron armoured going thro' Holds, Engine Room etc

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 Lead Ferrules through bulkheads, &c. w. glands

How are cables carried through decks Iron Deck Tubes 2ft from deck

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 & clipped to deck

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 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.

Bennett & Butlerford Electrical Engineers Date 24 Sept 1915

COMPASSES.

Distance between dynamo or electric motors and standard compass About 50ft.

Distance between dynamo or electric motors and steering compass /

The nearest cables to the compasses are as follows:—

A cable carrying	<u>1/2</u>	Ampere	<u>to light compass</u>	feet from standard compass	<u>at</u>	feet from steering compass
A cable carrying	<u>1/2</u>	Ampere	<u>four</u>	feet from standard compass	<u>four</u>	feet from steering compass
A cable carrying		Ampere		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 / degrees on / course in the case of the standard compass and / degrees on / course in the case of the steering compass.

FOR AND ON BEHALF OF THE ARDROSSAN DRY DOCK & SHIPBUILDING COY. LTD.

A. Wilson Builder's Signature. Date 24 Sept 1915

GENERAL REMARKS.

This installation has been fitted in a satisfactory manner, and has been tried under full load and found to work well.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. W.D. 14/10/15 W. Dennis Beck William H. Copeman Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute GLASGOW 2 OCT. 1915

Electric Light

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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24/10/15