

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 39397

Port of Glasgow Date of First Survey 24/9/19 Date of Last Survey 26/11/19 No. of Visits 4
 No. in Reg. Book on the Iron or Steel TSS. WOODARRA Port belonging to Glasgow
 Built at Whitby By whom Messrs Barclay Currie & Co. Ltd. When built 1919
 Owners British Ind. St. Nav. Co. Ltd. Owners' Address
 Yard No. 572 Electric Light Installation fitted by Messrs A. Watson & Co. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 open Type $6\frac{1}{2} \times 6$ Engine (Robey & Co.) direct coupled to 10 K.W. Compound Wound Dynamo (Elect. Construction Co.)
 1 " " " " (Sunderland Forge) direct coupled to 15 K.W. " " " (Sunderland Forge.)
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Dynamo Room, Tween Deck level Whether single or double wire system is used Double
 Position of Main Switch Board Adjacent to Switchboard having switches to groups 10 Circuits of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each no Auxiliary Boards

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 — 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 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 3 Arc lamps, 31 Lamps, 30 H. lights arranged in the following groups:—

A Engine Room	32 lights each of	16 cp	candle power requiring a total current of	52.48	Amperes
B Fore Cargos	27 lights each of	62 Amps	candle power requiring a total current of	30.28	Amperes
C Aft Cargos	27 lights each of	16 C.P.	candle power requiring a total current of	23.78	Amperes
D Winches	lights each of	—	candle power requiring a total current of	30.00	Amperes
E Aft. Cow.	37 lights each of	16 C.P. Carbon	candle power requiring a total current of	11.28	Amperes
2 Mast head light with	1 lamps each of	32 C.P. Carbon	candle power requiring a total current of	2.56	Amperes
2 Side light with	1 lamps each of	32 C.P. Carbon	candle power requiring a total current of	2.56	Amperes
3 Cargo lights of	62 Amps	16 C.P. Carbon	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. Are totally enclosed in inner Glass, and fitted with glass Globe on Lantern

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

DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each .083 S.W.G. diameter, 2 square inches total sectional area
 Branch cables carrying 42.4 Amperes, comprised of 7 wires, each .16 S.W.G. diameter, .022 square inches total sectional area
 Branch cables carrying 10.8 Amperes, comprised of 7 wires, each .18 S.W.G. diameter, .0125 square inches total sectional area
 Leads to lamps carrying 5 Amperes, comprised of 1 wires, each .17 S.W.G. diameter, .0025 square inches total sectional area
 Cargo light cables carrying 17.2 Amperes, comprised of 7 wires, each .16 S.W.G. diameter, .022 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In Engine Room etc., VDR Cable protected by Galv. Iron Pipe & Braiding.
 " Accommodation V. D. R. Cable protected by Lead Covering.

Joints in cables, how made, insulated, and protected no joints

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 On Deck, VDR Cable in Galv. Iron Pipes. In Engine Room Armoured & Braided Cable, In Accommodation Lead Covered Cable.

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 Armouring + Braiding

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

What special protection has been provided for the cables near boiler casings Armouring + Braiding

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

How are cables carried through beams In Fibre Ferrules through bulkheads, &c. in W.T. Stuffing Boxes

How are cables carried through decks In W.T. Deck Tubes standing 13 inches off Deck

Are any cables run through coal bunkers Yes or cargo spaces — or spaces which may be used for carrying cargo, stores, or baggage —

If so, how are they protected By Galvanised Iron Pipes

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.

FOR ARCHD. WATSON & CO., LTD.,

Electrical Engineers

Date 1-11-19

COMPASSES.

Distance between dynamo or electric motors and standard compass 165 feet

Distance between dynamo or electric motors and steering compass 160 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
6	2	2	
10.5	6	4	
—	—	—	

Have the compasses been adjusted with and without the electric installation at work at full power

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.

Builder's Signature.

Date 3rd Nov 1919

GENERAL REMARKS.

This Installation has been fitted on board under Special Survey. Tested under full working conditions for a period of six hours and found satisfactory.

J. Stanley Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 9-DEC 1919

Elec. Light

TUE 23 DEC 1919

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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.