

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8139

Port of Belfast Date of First Survey March 7 1919 Date of Last Survey April 17 1919 No. of Visits Right
 No. in Reg. Book on the Iron-on-Steel T.S.S. Ostra Port belonging to Southampton
 Built at Belfast By whom Harland & Wolff L^{td} When built 1919
 Owners Shaw Savill & Albion Co. L^{td} Owners' Address London
 Yard No. 541 Electric Light Installation fitted by Harland & Wolff L^{td} When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two forced enclosed lubrication, Single cylinder, Engines & Dynamos with cylinder 5 1/2" x 5" Stroke, Speed 520 R. P. M.

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine Room Whether single or double wire system is used Double

Position of Main Switch Board in Engine Room having switches to groups A, B, C, D, E, F of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each —

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 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 234 arranged in the following groups:—

A <u>Eng. & P.O.</u>	<u>16</u> lights each of <u>16</u> candle power requiring a total current of <u>9.0</u> Amperes
B <u>Aug. Saloon</u>	<u>5</u> lights each of <u>32 C.P.</u> <u>4 lts of 8 C.P.</u> <u>16</u> candle power requiring a total current of <u>18.9</u> Amperes
C <u>Eng. Room</u>	<u>58</u> lights each of <u>16</u> candle power requiring a total current of <u>29.0</u> Amperes
D <u>Cargo</u>	<u>54</u> lights each of <u>16</u> candle power requiring a total current of <u>24.0</u> Amperes
E <u>Crew</u>	<u>44</u> lights each of <u>16</u> candle power requiring a total current of <u>13.8</u> Amperes
F <u>Masthead</u>	<u>1</u> lamp each of <u>32</u> candle power requiring a total current of <u>2.4</u> Amperes
<u>Side lights</u>	<u>1</u> lamp each of <u>32</u> candle power requiring a total current of <u>2.4</u> Amperes
<u>5 Cargo lights</u>	<u>96</u> candle power, whether incandescent or arc lights <u>incandescent</u>

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

Where are the switches controlling the masthead and side lights placed On Bridge

DESCRIPTION OF CABLES.

Dynamo Mains <u>113</u>	<u>19</u> wires, each <u>14</u> S.W.G. diameter, <u>.094</u> square inches total sectional area
Main cable carrying <u>18.9</u> Amperes, comprised of <u>Y</u> wires, each <u>16</u> S.W.G. diameter, <u>.022</u> square inches total sectional area	
Branch cables carrying <u>2.5</u> Amperes, comprised of <u>Y</u> wires, each <u>20</u> S.W.G. diameter, <u>.00401</u> square inches total sectional area	
Branch cables carrying <u>—</u> Amperes, comprised of <u>—</u> wires, each <u>—</u> S.W.G. diameter, <u>—</u> square inches total sectional area	
Leads to lamps carrying <u>1.8</u> Amperes, comprised of <u>1</u> wires, each <u>14</u> S.W.G. diameter, <u>.00246</u> square inches total sectional area	
Cargo light cables carrying <u>3.0</u> Amperes, comprised of <u>90</u> wires, each <u>36</u> S.W.G. diameter, <u>.0040</u> square inches total sectional area	

DESCRIPTION OF INSULATION, PROTECTION, ETC.

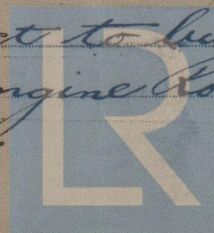
Cables & branch wiring exposed are 600 megohm C.M.A. grade vulcanised india rubber, armoured & white braided also 1/4 A.P. 254 lead covered cable.

Joints in cables, how made, insulated, and protected joints made in W.T. junction boxes on deck & porcelain junction boxes with iron protecting cover in engine room.

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 Cables clipped direct to bulkhead & protected by armouring & braiding in engine room galley & crew quarters & lead covered in accom.



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 in piping.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured & braided cables.

What special protection has been provided for the cables near boiler casings Armoured & braided cables.

What special protection has been provided for the cables in engine room Armoured & braided cables.

How are cables carried through beams flushed with fibre or lead through bulkheads, &c. In glands if W.I. otherwise lead or fibre.

How are cables carried through decks In iron deck pipes flushed or with glands.

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

If so, how are they protected Run in 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 Permanently How fixed armoured & braided cables clipped to Bulkhead.

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 Subd in eng. Room.

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.



Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 140 ft from Dynamo 132 ft from steering compass

Distance between dynamo or electric motors and steering compass 140 " " " 132 " " "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6.0</u> Amperes	<u>8</u> feet from standard compass	<u>5</u> feet from steering compass
A cable carrying	<u>4.0</u> Amperes	<u>20</u> feet from standard compass	<u>13</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 all courses in the case of the standard compass and nil degrees on all courses in the case of the steering compass.

For KIELAND & WOLFF

J. Johnstone

Builder's Signature.

Date

GENERAL REMARKS.

This installation is of good description, and has been fitted in accordance with the Rules

It is submitted that this vessel is eligible for

THE RECORD, ELEC LIGHT

J.W.D. Reh
21.6.19

R.F. Brown

Surveyor to Lloyd's Register of Shipping.

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.