

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17127.

Port of Greenock Date of First Survey 9.2.17 Date of Last Survey 21.3.17 No. of Visits 8
 No. in Reg. Book on the Iron or Steel S/S "Verdun" Port belonging to Harbour
 Built at Sas Harrow By whom Russell & Co. When built 1917
 Owners Low Hamion & Co. Owners' Address Harrow
 Yard No. 691 Electric Light Installation fitted by The Sunderland Forge & Eng. Coy. Ltd. When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Combined plant consisting of vertical open type Engine 8"x6" - 320 revs.
 100 Steam - coupled to compound wound multipolar dynamo.

Capacity of Dynamo 120 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Eng. Room, Bottom platform, Stbd side Whether single or double wire system is used double

Position of Main Switch Board close to dynamo having switches to groups five of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each In Chartroom, with 5 switches for Port, Starboard, Foremast, Mainmast, & Stern light.

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 No 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 = 124 @ 16 c.p. arranged in the following groups :-

A Cargo	30 @ 16 c.p. lights each of	16	candle power requiring a total current of	16.8	Amperes
B Saloon & Nav	38 @ " lights each of	30 @ 16 c.p. 4 @ 32	candle power requiring a total current of	21.3	Amperes
C Engineers & Aff.	29 " lights each of	27 @ 16 c.p. 1 @ 32	candle power requiring a total current of	16.2	Amperes
D E. & B. Room	27 " lights each of	16	candle power requiring a total current of	15.1	Amperes
E Wireless	- lights each of	-	candle power requiring a total current of	25	Amperes
2 Mast head light with	1 lamps each of	32	candle power requiring a total current of	2.24	Amperes
2 Side light with	1 lamps each of	32	candle power requiring a total current of	2.24	Amperes
5 Cargo lights of	6 light 16 c.p.		candle power, whether incandescent or arc lights	incandescent	

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

Where are the switches controlling the masthead and side lights placed In Chartroom.

DESCRIPTION OF CABLES.

Main cable carrying	120 Amperes, comprised of	37 wires, each	16 S.W.G. diameter,	.117 square inches total sectional area
Branch cables carrying	25 Amperes, comprised of	7 wires, each	18 S.W.G. diameter,	.0125 square inches total sectional area
Branch cables carrying	16.2 Amperes, comprised of	7 wires, each	20 S.W.G. diameter,	.007 square inches total sectional area
Leads to lamps carrying	2.5 Amperes, comprised of	7 wires, each	25 S.W.G. diameter,	.0022 square inches total sectional area
Cargo light cables carrying	3.5 Amperes, comprised of	7 wires, each	21 1/2 S.W.G. diameter,	.0049 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

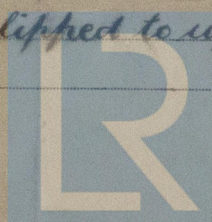
Main & Machinery spaces. Pure & Vulcanized India Rubber Taped, Vulcanized, Braided Armoured & Braided overall.
 Accommodation Spaces. ditto Lead Covered.

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 & Braided cable, clipped to upper side of girders



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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 *Armoured & Braided*

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

What special protection has been provided for the cables near boiler casings *ditto*

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

How are cables carried through beams *Holes bushed with fibre* through bulkheads, &c. *W. T. Glands.* ✓

How are cables carried through decks *W. T. Deck Tubes.* ✓

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 *Armoured & Braided*

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 *Main S. 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

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.

P. PRO THE SUNDERLAND FORCE & ENGINEERING CO., LTD. Electrical Engineers Date *March 30th 1917*

COMPASSES.

Distance between dynamo or electric motors and standard compass

about 100 feet.

Distance between dynamo or electric motors and steering compass

about 96 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<i>9.5</i>	Amperes	<i>about 12</i>	feet from standard compass	<i>about 7</i>	feet from steering compass
A cable carrying	<i>.56</i>	Amperes	<i>led into</i>	feet from standard compass	<i>about 7</i>	feet from steering compass
A cable carrying	<i>.56</i>	Amperes	<i>about 7</i>	feet from standard compass	<i>led into</i>	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 *no* degrees on *any* course in the case of the standard compass and *no* degrees on *any* course in the case of the steering compass.

J. Russell & Co. Engineers Builder's Signature. Date *4th April 1917*

GENERAL REMARKS.

The fitting of the wires in this vessel are as stated in this Report and appear to be in accordance with the Committee's requirements.

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

J. W. D. 18/4/17. Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute *GLASGOW. 17 APR. 1917*
Elec. Light



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10/4/17