

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 24630

Port of Sunderland Date of First Survey Sept 29 Date of Last Survey Oct 5, 1910 No. of Visits 2
 No. in Reg. Book on the Iron Steel Steamer "Umona" Port belonging to London
 Built at Sunderland By whom Sir James Laing & Sons Ltd When built 1910
 Owners Bullard, King & Co Owners' Address London
 Yard No. 630 Electric Light Installation fitted by Sunderland Forge & Engineering Co Ltd When fitted 1910

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multitap compound-wound dynamo direct coupled to Open-type inserted engine both by Sunderland Forge & Engineering Co Ltd

Capacity of Dynamo 150 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Bottom of Engine room Star Side Whether single or double wire system is used double

Position of Main Switch Board Close to dynamo having switches to groups 3 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 in Charroom having 5 switches for Navigation lights & 1 Section box having double pole fuses for distribution of power in Starboard Laboratory, Pantry, Port Stateroom, Charroom and Forecastle.

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes.

Are the cut outs of non-oxidisable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes 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 cut-outs constructed of incombustible materials and fitted on incombustible bases Yes.

Total number of lights provided for 159 arranged in the following groups:-

A	<u>93</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>52.08</u>	Amperes
B	<u>49</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>27.44</u>	Amperes
C	<u>17</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>9.52</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
	<u>2</u>	Mast head lights with	<u>1</u> lamps each of <u>32 (W.F.)</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
	<u>2</u>	Side lights with	<u>1</u> lamps each of <u>32 (W.F.)</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
	<u>4</u>	Cargo lights of	<u>6</u> each <u>16</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. None fitted

Where are the switches controlling the masthead and side lights placed in Charroom

DESCRIPTION OF CABLES.

Main cable carrying 89.04 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .09442 square inches total sectional area
 Branch cables carrying 27.08 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .06039 square inches total sectional area
 Branch cables carrying 27.44 Amperes, comprised of 7 wires, each 15 L.S.G. diameter, .01822 square inches total sectional area
 Leads to lamps carrying 1.68 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area
 Cargo light cables carrying 3.36 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .003217 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Taped and braided run in wood casing.
Main Cables. Pure rubber. Vul. rubber. Taped and braided run in iron pipes.
Engine room & Staterooms do do do do do and wood casing

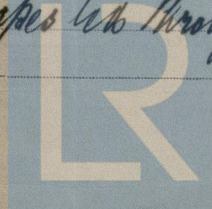
Joints in cables, how made, insulated, and protected

There are none.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 1. & 2. cables in iron pipes led through two decks fore and aft along bulwark rail off.



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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 *Iron pipes*

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

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

What special protection has been provided for the cables in engine room *Wood casing or iron pipes*

How are cables carried through beams *holes hatched with fibre*

How are cables carried through decks *waterlight deck tubes*

Are any cables run through coal bunkers *no*

If so, how are they protected *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 cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portables*

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

The installation is *yes*

supplied with a voltmeter and *no*

an amperemeter, fixed *in switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 *99*

per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile after 24 hours' immersion in seawater.

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.

W. PRO THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

COMPASSES.

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	<i>7.5</i>	Amperes	<i>8</i>	feet from standard compass	<i>10</i>	feet from steering compass
A cable carrying	<i>5.6</i>	Amperes	<i>led into</i>	feet from standard compass	<i>10</i>	feet from steering compass
A cable carrying	<i>1.12</i>	Amperes	<i>8</i>	feet from standard compass	<i>10</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

standard compass and *no* degrees on

any course in the case of the steering compass.

GENERAL REMARKS.

This installation has been well fitted and ran satisfactorily on trial under full load.

Builder's Signature.

Date *Oct 22/1910*

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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