

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7942.

Port of Liverpool Date of First Survey 14 April Date of Last Survey 9 May No. of Visits 4
 No. in Reg. Book on the Iron or Steel S/S "YAR YARE" Port belonging to London
 Built at London By whom H. H. Grayson & Co. When built 1919
 Owners Shipping Controller Owners' Address London
 Yard No. 106 Electric Light Installation fitted by Campbell & Ashwood Ltd When fitted 27/5/19

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open Vertical single cylinder type engine coupled direct to compound wound multipolar type dynamo, both on cast iron base plate

Capacity of Dynamo 50 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed under floor in engine room Whether single or double wire system is used single

Position of Main Switch Board near dynamo having switches to groups 200 of lights, &c., as below

Positions of auxiliary switch boards and number of switches on each 1. 6 way in engine room 1. 10 way with wires in chart room, remainder near respective groups of lights

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 —

Are the fuses of non-oxidisable metal yes and constructed to fuse at an excess of 50 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 825-165 Arranged in the following groups:—

A <u>Sabon</u>	<u>12</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>14</u>	Amperes
B <u>Bridge</u>	<u>20</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>8</u>	Amperes
C <u>Forecastle</u>	<u>27</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>10</u>	Amperes
D <u>Engine room</u>	<u>22</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>8</u>	Amperes
E <u>Cargo</u>	<u>24</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>12</u>	Amperes
<u>+ 2. 150 watt lamps</u>		<u>300</u>			
<u>2 Mast head light with</u>	<u>18</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1</u>	Amperes
<u>2 Side light with</u>	<u>1</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>1</u>	Amperes
<u>4 6 light blue</u>		<u>96</u>			
<u>2 6 light blue</u>		<u>300</u>			
<u>2 6 light blue</u>					

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

Where are the switches controlling the masthead and side lights placed in chart room

DESCRIPTION OF CABLES.

Main cable carrying	<u>50</u> Amperes, comprised of	<u>19</u> wires, each	<u>14</u> S.W.G. diameter, <u>0.092</u> square inches total sectional area
Branch cables carrying	<u>10</u> Amperes, comprised of	<u>7</u> wires, each	<u>18</u> S.W.G. diameter, <u>0.125</u> square inches total sectional area
Branch cables carrying	<u>20</u> Amperes, comprised of	<u>7</u> wires, each	<u>18</u> S.W.G. diameter, <u>0.125</u> square inches total sectional area
Leads to lamps carrying	<u>1</u> Amperes, comprised of	<u>3</u> wires, each	<u>20</u> S.W.G. diameter, <u>.003</u> square inches total sectional area
Cargo light cables carrying	<u>12</u> Amperes, comprised of	<u>17</u> wires, each	<u>38</u> S.W.G. diameter, <u>.005</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

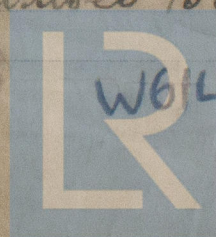
2. 1/2" paper braided compounded cable, through cargo spaces, bunkers, engine room & on deck, carried in heavy gauge galvanised screwed pipe

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 no 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 in heavy gauge galvanised screwed pipe



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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 *heavy gauge*
encased in galvanized pipe

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

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

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

How are cables carried through beams *in pipe on iron clips* through bulkheads, &c.

How are cables carried through decks *in galvanized pipe, watertight*

Are any cables run through coal bunkers *Yes* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *by heavy gauge encased galvanized pipe*

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 *to connecting boxes on bulk*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *with brass screw into beam*

How are the returns from the lamps connected to the hull *by brass lap screw*

Are all the joints with the hull in accessible positions *yes*

Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes* fixed on *Main*
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.

CAMPBELL & ISHERWOOD, LTD.

Electrical Engineers

Date *27/5/19.*

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	$\frac{1}{2}$	Ampere	<i>on</i>	feet from standard compass	<i>6"</i>	feet from steering compass
A cable carrying	$\frac{1}{2}$	Ampere	<i>5</i>	feet from standard compass	<i>on</i>	feet from steering compass
A cable carrying	<i>2</i>	Ampere	<i>3</i>	feet from standard compass	<i>2' 6"</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 _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

H. & O. GRAYSON, LIMITED

Builder's Signature.

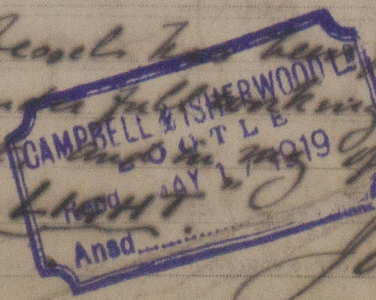
Date *31 May 1919.*

GENERAL REMARKS.

The Electric Installation of this vessel has been fitted in accordance with the Rules and when tried under full working conditions was found satisfactory in every respect and is in my opinion eligible for the Notification **ELECTRIC LIGHT**

It is submitted that this vessel is eligible for THE RECORD, ELEC LIGHT.

Roll *6.6.19.*



Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL

3 JUN 1919

Electric Light

744



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.