

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17541.

Port of Greenock Date of First Survey 1st July 1919 Date of Last Survey 6th October 1919 No. of Visits 15
Built on the Iron or Steel Series Port belonging to London
Built at Greenock By whom Harland & Wolff When built 1919
Owners Royal Mail S.P.C. Owners' Address London
No. 578 Electric Light Installation fitted by Harland & Wolff When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

no combined direct coupled steam generating sets. Engines single cylinder 5'3" x 5" stroke
16 B.H.P. 520 R.P.M. by Messrs. Harland & Wolff. Dynamoes Multipolar, level compound, by Messrs. Holmes &
Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
Where is Dynamo fixed Engine Room Starboard Side Whether single or double wire system is used Single, but double forward of boiler room
Position of Main Switch Board on Engine Room Bulkhead having switches to groups seven of lights, &c., as below
Positions of auxiliary switch boards and numbers of switches on each No auxiliary switch boards Distribution boxes
located: 1 in forecabin. 1 in wheel house. 2 in Officers' accom. (1 for lights & 1 for food cargo)
in Engine Room. 1 in Engine casing for Aft, Cargo. 1 in Engine Room. 7 Dis. boxes in all
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
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 236 arranged in the following groups:—

<u>3</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>3.3</u>	Amperes
<u>153</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>91.8</u>	Amperes
<u>5</u>	lights each of	<u>8</u>	candle power requiring a total current of	<u>1.5</u>	Amperes
<u>58</u>	lights each of	<u>40 watt</u>	candle power requiring a total current of	<u>23.2</u>	Amperes
<u>5</u>	lights each of	<u>1000 cp. 1/2 watt</u>	candle power requiring a total current of	<u>25</u>	Amperes
<u>2</u>	Mast head light with	<u>1 lamp each of 32</u>	candle power requiring a total current of	<u>2.2</u>	Amperes
<u>2</u>	Side lights with	<u>1 lamp each of 32</u>	candle power requiring a total current of	<u>2.2</u>	Amperes
<u>10</u>		<u>8-16 cp lamps each</u>			
<u>5</u>	Cargo lights of	<u>1-1200 "</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

are lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed In wheel house

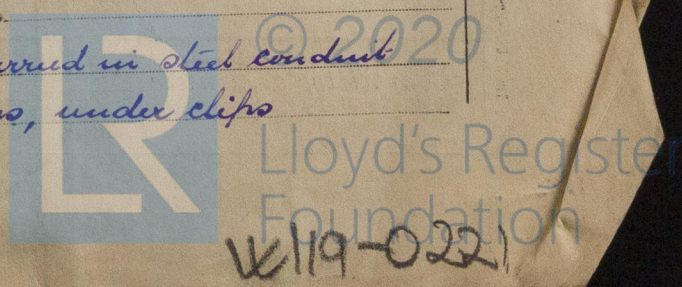
DESCRIPTION OF CABLES.

in cable carrying	<u>100</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>14</u>	S.W.G. diameter,	<u>.094</u>	square inches total sectional area
inch cables carrying	<u>40</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>16</u>	S.W.G. diameter,	<u>.072</u>	square inches total sectional area
inch cables carrying	<u>15</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>18</u>	S.W.G. diameter,	<u>.0125</u>	square inches total sectional area
ids to lamps carrying	<u>5</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>17</u>	S.W.G. diameter,	<u>.0025</u>	square inches total sectional area
go light cables carrying	<u>6</u>	Amperes, comprised of	<u>103</u>	wires, each	<u>38</u>	S.W.G. diameter,		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main & Sub main cables V.I.R. Taped & braided
Sub wiring in accommodation V.I.R. Taped & braided
" " Engine Room & Crew Space V.I.R. Lead covered, armoured & braided
nts in cables, how made, insulated, and protected Standard joints for subwiring. No joints in main
cables

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 no
there any joints in or branches from the cable leading from dynamo to main switch board no
are the cables led through the ship, and how protected Through holds the cable is carried in steel conduit
through Accommodation in wood casing & in Engine & Boiler Rooms, under clips



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 *Steel conduit or lead covered, armoured & braided*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered, armoured & braided*

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 *through red fibre bushes* through bulkheads, &c. *thru' W. P. Bulkhead Glands*

How are cables carried through decks *through deck tubes 18" long & made water-tight*

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

If so, how are they protected *in steel conduit through holds*

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 *through brass earth lug to engine seating*

How are the returns from the lamps connected to the hull *Through fitting direct to steel deck*

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 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 *2,500* 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.

Messrs Harland & Wolff Limited Electrical Engineers

Date *20th Sep 1919*

COMPASSES.

Distance between dynamo or electric motors and standard compass *100 feet*

Distance between dynamo or electric motors and steering compass *92 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Position	feet from standard compass	feet from steering compass
<i>.3</i>	<i>Fitted in</i>	<i>6 feet</i>	<i>6 feet</i>	
<i>.3</i>	<i>Amperes</i>	<i>6 feet</i>	<i>2 feet</i>	
<i>.</i>	<i>Amperes</i>	<i>.</i>	<i>.</i>	

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 _____ course in the case of the standard compass and *Nil* degrees on _____ course in the case of the steering compass.

FOR HARLAND & WOLFF LIMITED.

Builder's Signature.

Date

1st October 1919.

GENERAL REMARKS.

The history of the vessel in this vessel is as stated in this report and appears to be in accordance with the Committee's requirements;

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

Elec Light

Roll 14/10/19

Samuel Jones

Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 14 OCT 1919**

Elec. Light. M



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