

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 57720

Port of Liverpool Date of First Survey 30 April Date of Last Survey 22 May 1906 No. of Visits
No. in 1 on the Iron or Steel L. S. Lris Port belonging to Liverpool
Reg. Book 2244 Built at Newcastle By whom R. Stephenson & Co. Ltd. When built 1906
Owners Willamsey Urban District Council Owners' Address
Yard No. 100 Electric Light Installation fitted by A. J. Boulton & Co. Ltd. When fitted May 1906

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar dynamo coupled direct to inverted
cylinder open type engine

Capacity of Dynamo 120 Amperes at 70 Volts, whether continuous or alternating current

Where is Dynamo fixed in engine room

Position of Main Switch Board by dynamo having switches to groups 11 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Five auxiliary boards are fitted
on bulkheads in accommodation & machinery spaces

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-oxidizable metal yes and constructed to fuse at an excess of 50 per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 124 arranged in the following groups:—

A	<u>14</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>11</u>	Amperes						
B	<u>15</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>12</u>	Amperes						
C	<u>10</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>8</u>	Amperes						
D	<u>14</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>11</u>	Amperes						
E & K	<u>14</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>11</u>	Amperes						
<u>Fore</u>	<u>Mast</u>	<u>head</u>	<u>light</u>	<u>with</u>	<u>1</u>	<u>lamps</u>	<u>each</u>	<u>of</u>	<u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
<u>Two</u>	<u>Side</u>	<u>light</u>	<u>with</u>	<u>1</u>	<u>lamps</u>	<u>each</u>	<u>of</u>	<u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes	

Cargo lights of — candle power, whether incandescent or are lights

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

Where are the switches controlling the masthead and side lights placed on steering platform

DESCRIPTION OF CABLES.

Main cable carrying	<u>74</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>14</u>	L.S.G. diameter,	<u>.094</u>	square inches total sectional area
Branch cables carrying	<u>9</u>	Amperes, comprised of	<u>4</u>	wires, each	<u>20</u>	L.S.G. diameter,	<u>.007</u>	square inches total sectional area
Branch cables carrying	<u>—</u>	Amperes, comprised of	<u>—</u>	wires, each	<u>—</u>	L.S.G. diameter,	<u>—</u>	square inches total sectional area
Leads to lamps carrying	<u>.75</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>18</u>	L.S.G. diameter,	<u>.0018</u>	square inches total sectional area
Cargo light cables carrying	<u>—</u>	Amperes, comprised of	<u>—</u>	wires, each	<u>—</u>	L.S.G. diameter,	<u>—</u>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables are of 600 Ins. grade. Lead covered in passenger
accommodation, lead covered & armoured in machinery
space & exposed places.

Joints in cables, how made, insulated, and protected There are no joints, the wires being
direct to D.P. boxes

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 —

How are the cables led through the ship, and how protected Cables are held in position with
brass clips screwed to deck.

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 *are covered*

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

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

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

How are cables carried through beams *in fibre bushes* through bulkheads, &c.

How are cables carried through decks *in iron tubes*

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

If so, how are they protected

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 *none* How fixed

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *lamps wired*

How are the returns from the lamps connected to the hull

Are all the joints with the hull in accessible positions

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 installation is supplied with a voltmeter and an amperemeter, fixed

The copper used is guaranteed to have a conductivity of *100* 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.

H. J. Boothroyd, Glasgow

Electrical Engineers

Date *May 28th 1906*

COMPASSES.

Distance between dynamo or electric motors and standard compass *40 ft*

Distance between dynamo or electric motors and steering compass *40 "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>3.5</i>	Ampères	<i>12.45</i>	feet from standard compass	<i>20</i>	feet from steering compass
A cable carrying	<i>4</i>	Ampères	<i>12.6</i>	feet from standard compass	<i>20</i>	feet from steering compass
A cable carrying	<i>3.5</i>	Ampères	<i>12.6</i>	feet from standard compass	<i>20</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 *nil* degrees on course in the case of the standard compass and *nil* degrees on course in the case of the steering compass.

Builder's Signature. Date

GENERAL REMARKS.

This installation has now been completed. The material and workmanship are of good description, it has been tried under working conditions and found satisfactory and in my opinion the vessel is eligible for the notification "Elec Light" C. I. Davidson.

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

Committee's Minute

Electric Light.

It is submitted that the Record Elec. Light be noted in the Reg. Book.

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.