

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 57750

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 *S.S. Lris* Port belonging to *Liverpool*
 Reg. Book *228* Built at *Newcastle* By whom *H. Stephenson & Co. Ltd.* When built *1906.*
 Owners *Willarey Urban District Council* Owners' Address
 Yard No. *100* Electric Light Installation fitted by *A. J. Boulton & Co. Liverpool* 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	<i>14</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>11</i>	Amperes
B	<i>15</i>	lights each of	"	candle power requiring a total current of	<i>12</i>	Amperes
C	<i>10</i>	lights each of	"	candle power requiring a total current of	<i>8</i>	Amperes
D	<i>14</i>	lights each of	"	candle power requiring a total current of	<i>11</i>	Amperes
E & K	<i>14</i>	lights each of	"	candle power requiring a total current of	<i>11</i>	Amperes
<i>Fore Mast</i>	<i>1</i>	lamps each of	<i>32</i>	candle power requiring a total current of	<i>2</i>	Amperes
<i>Two Side</i>	<i>1</i>	lamps each of	<i>32</i>	candle power requiring a total current of	<i>2</i>	Amperes

Cargo lights of _____ candle power, whether incandescent or arc lights

If arc 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 *74* Amperes, comprised of *19* wires, each *14* L.S.G. diameter, *.099* square inches total sectional area

Branch cables carrying *9* Amperes, comprised of *4* wires, each *20* L.S.G. diameter, *.007* square inches total sectional area

Branch cables carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area

Leads to lamps carrying *.75* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.0018* square inches total sectional area

Cargo light cables carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

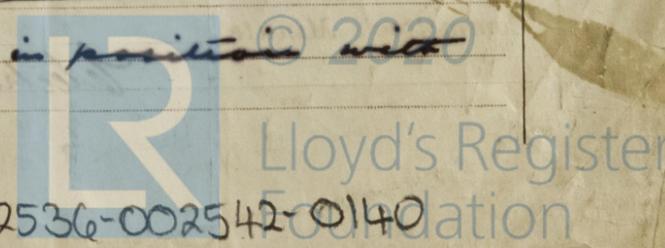
All cables are of 600 meg. grade. Lead covered in passenger accommodation, lead covered & armoured in machinery space & exposed places.

Joints in cables, how made, insulated, and protected *There are no joints, the wires going 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 are covered near lamps

What special protection has been provided for the cables near boiler casings are covered

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

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 double 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, Hyploper

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	<u>3.5</u>	Amperes	<u>12.75</u>	feet from standard compass	<u>20</u>	feet from steering compass
A cable carrying	<u>4</u>	Amperes	<u>12.6</u>	feet from standard compass	<u>20</u>	feet from steering compass
A cable carrying	<u>3.5</u>	Amperes	<u>12.6</u>	feet from standard compass	<u>20</u>	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.

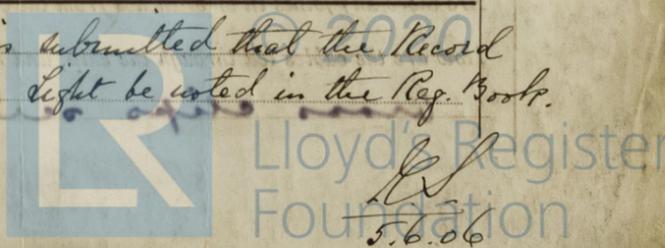
This installation has now been completed, the material and workmanship are of good description, it has been tried under working conditions and found satisfactory and in my opinion the vessel is eligible for the notification "Elec Light" C. I. Davidson.

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.



5.6.06

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 1.