

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 53359.

Port of *Newcastle-on-Tyne* Date of First Survey *July 11* Date of Last Survey *Aug 6/07* No. of Visits *3*
 No. in Reg. Book *649* on the Iron or Steel ship *Lancaster* late *Highland Fiddie* Port belonging to *Adelaide*.
 Built at *Glasgow* By whom *W. Beardmore & Co. Ltd.* When built *1905*.
 Owners *Adelaide Steam Shipping Co. Ltd.* Owners' Address *Amie Street, Adelaide S. A.*
 Yard No. Electric Light Installation fitted by *Sunderland Forge & Eng. Co. Ltd.* When fitted *6/8/07*.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open Type Engine fitted to Multipolar Dynamo

Capacity of Dynamo *120* Amperes at *100* Volts, whether continuous or alternating current *continuous*.
 Where is Dynamo fixed *Starting Platform* Whether single or double wire system is used *Double*.
 Position of Main Switch Board *near Dynamo* having switches to groups *5* of lights, &c., as below.
 Positions of auxiliary switch boards and numbers of switches on each *none fitted*

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 *100* 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 *130* arranged in the following groups:—

A	<i>30</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>18</i>	Amperes
B	<i>40</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>24</i>	Amperes
C	<i>12</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>7.2</i>	Amperes
D	<i>18</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>10.8</i>	Amperes
E	<i>20</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>12.0</i>	Amperes
<i>2</i>	Mast head light with	<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.4</i>	Amperes
<i>2</i>	Side light with	<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.4</i>	Amperes

5 Cargo lights of *6* *16* candle power, whether incandescent or arc lights *Incandescent*
and 2 arc lamps

If arc lights, what protection is provided against fire, sparks, &c. *Glazed lanterns fitted, also Inner Globes.*

Where are the switches controlling the masthead and side lights placed *in Chart Room.*

DESCRIPTION OF CABLES.

Main cable carrying *120* Amperes, comprised of *19* wires, each *12* L.S.G. diameter, *.13* square inches total sectional area
 Branch cables carrying *18* Amperes, comprised of *4* wires, each *18* L.S.G. diameter, *.024* square inches total sectional area
 Branch cables carrying *5* Amperes, comprised of *4* wires, each *21* L.S.G. diameter, *.005* square inches total sectional area
 Leads to lamps carrying *6* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.001* square inches total sectional area
 Cargo light cables carrying *5* Amperes, comprised of *138* wires, each *38* L.S.G. diameter, *.005* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

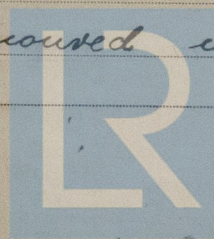
*Wires insulated with Pure & Vulcanised India Rubber
 taped & Braided & the whole vulcanised together.*

Joints in cables, how made, insulated, and protected *None used.*

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 *No*

How are the cables led through the ship, and how protected *Lead covered & armoured wires
 Lead through Beams in lower Deck.*



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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 Lead covered and armoured used

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

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

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

How are cables carried through beams Holes bored for L.C. Wires through bulkheads, &c. W.T. Glands used

How are cables carried through decks W.T. Deck Lanes used

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 Lead covered & armoured wires used.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage yes

If so, how are the lamp fittings and cable terminals specially protected Strong Cast Iron Glands

Where are the main switches and cut outs for these lights fitted in Engine Room.

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 portable How fixed —

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 — supplied with a voltmeter and an amperemeter, fixed on 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 98 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.

THE SUNDERLAND FORGE & ENGINEERING Co., LTD.

Electrical Engineers

Date

August 8th 07

COMPASSES.

Distance between dynamo or electric motors and standard compass

130 feet

Distance between dynamo or electric motors and steering compass

120 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>2</u>	Amperes	<u>10</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>.6</u>	Amperes	<u>on</u>	feet from standard compass	<u>on</u>	feet from steering compass
A cable carrying		Amperes		feet from standard compass		feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

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.

Builder's Signature. Date

GENERAL REMARKS.

This installation has been examined and as far as could be seen found satisfactory

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

Committee's Minute

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

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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.