

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 14250

Port of Swansea Date of First Survey 18 Apr Date of Last Survey 16 May No. of Visits 6  
 No. in Reg. Book 99 on the Iron or Steel 5/5 LVINGTON COURT Port belonging to Liverpool  
 Built at Newcastle By whom Northumberland P&B When built 1911  
 Owners Court Line Ltd Owners' Address \_\_\_\_\_  
 Yard No. ✓ Electric Light Installation fitted by Campbell & Isherwood When fitted 16/5/17

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Roby Open Type Engine direct Coupled to a  
Campbell & Isherwood 4 Pole Compound Wound Dynamo  
 Capacity of Dynamo 125 Amperes at 110 Volts, whether continuous or alternating current Direct  
 Where is Dynamo fixed Starling Platform Whether single or double wire system is used Single  
 Position of Main Switch Board Stores Bulkhead having switches to groups 5 Circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each ✓

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-oxidizable metal \_\_\_\_\_ and constructed to fuse at an excess of \_\_\_\_\_ 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 \_\_\_\_\_  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 130 arranged in the following groups:—

A	<u>25</u>	lights each of	<u>16 cp</u>	candle power requiring a total current of	<u>12½</u>	Amperes
B	<u>20</u>	lights each of	<u>16 cp</u>	candle power requiring a total current of	<u>10</u>	Amperes
C	<u>10</u>	lights each of	<u>16 cp</u>	candle power requiring a total current of	<u>5</u>	Amperes
D	<u>20</u>	lights each of	<u>16 cp</u>	candle power requiring a total current of	<u>10</u>	Amperes
E	<u>10</u>	lights each of	<u>16 cp</u>	candle power requiring a total current of	<u>5</u>	Amperes
<u>2</u>	Mast head light with <u>2</u> lamps each of	<u>32 cp</u>	candle power requiring a total current of	<u>1</u>	Amperes	each
<u>2</u>	Side light with <u>1</u> lamps each of	<u>32 cp</u>	candle power requiring a total current of	<u>1</u>	Amperes	
<u>5</u>	Cargo lights of	<u>96 cp</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. \_\_\_\_\_

Where are the switches controlling the masthead and side lights placed Chart House

### DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .0956 square inches total sectional area  
 Branch cables carrying 15 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0127 square inches total sectional area  
 Branch cables carrying 10 Amperes, comprised of 2 wires, each 20 S.W.G. diameter, .0070 square inches total sectional area  
 Leads to lamps carrying 5 Amperes, comprised of 3 wires, each 22 S.W.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 15 Amperes comprised of 7 wires, each 16 S.W.G. diameter, .0275 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanoid and Compounded Taped and Braided  
Braided, Lead covered, Armoured and Braided

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 \_\_\_\_\_ 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 Iron Piping



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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 Armoured and Lead Covered and Piping

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead Covered Arm & 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 "

How are cables carried through beams Bushed fibre through bulkheads, &c. Glands ✓

How are cables carried through decks in Gal. Piping Deck Pipes ✓

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

If so, how are they protected in Gal Piping

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

Cargo light cables, whether portable or permanently fixed Portable How fixed Flexible Conduits from Cargo Boxes on Bulkheads

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel by insulated Lug Terminal

How are the returns from the lamps connected to the hull Earth Leads on Fittings

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 yes

**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 18/5/17

**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	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	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.**

The above installation has been fitted on board at this port in an efficient & satisfactory manner. It was tried under working conditions & found satisfactory.

It is submitted that this vessel is eligible to THE RECORD. Elec. light. JWD 18/5/17 E. G. Vaux Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

