

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 50146

Port of Newcastle-on-Tyne Date of First Survey Apr 06 Date of Last Survey May 1906 No. of Visits 6  
 No. in Log on the Iron or Steel Refr. Book 57 Built at Low Walker By whom Swan Hunter & Wigham Richardson Ltd. Port belonging to Charlottetown When built 1906  
 Owners Charlottetown S. Nav. Co. Ltd. Owners' Address Charlottetown Yard No. 151 Electric Light Installation fitted by Swan Hunter & Wigham Richardson Ltd. When fitted 1906

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Vertical Engine direct coupled to  
Multipole Dynamo  
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine room Whether single or double wire system is used double  
 Position of Main Switch Board near dynamo having switches to groups A B C D of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Steering gear 1 of 5 switches - Engine room top platform 1 of 6 switches - Saloon pantry 2 of six switches each wheelhouse 1 of 6 switches  
 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 20 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 written instructions  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes  
 Total number of lights provided for 132 arranged in the following groups:-  
 A Saloon 40 lights each of 16 candle power requiring a total current of 24 Amperes  
 B Engine 27 lights each of 16 candle power requiring a total current of 16.2 Amperes  
 C Port 33 lights each of 16 candle power requiring a total current of 19.8 Amperes  
 D Aft 32 lights each of 16 candle power requiring a total current of 19.2 Amperes  
 E ✓ lights each of ✓ candle power requiring a total current of ✓ Amperes  
1 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1.2 Amperes  
2 Side light with 1 lamps each of 32 candle power requiring a total current of 1.2 Amperes  
1 Cargo lights of 4 - 16 candle power, whether incandescent or arc lights incandescent  
 If arc lights, what protection is provided against fire, sparks, &c. —

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

## DESCRIPTION OF CABLES.

Main cable carrying 80 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .00956 square inches total sectional area  
 Branch cables carrying 24 Amperes, comprised of 7 wires, each 15 L.S.G. diameter, .0285 square inches total sectional area  
 Branch cables carrying 16 Amperes, comprised of 7 wires, each 17 L.S.G. diameter, .0172 square inches total sectional area  
 Leads to lamps carrying 19 Amperes, comprised of 7 wires, each 17 L.S.G. diameter, .0172 square inches total sectional area  
 Cargo light cables carrying 2.4 Amperes, comprised of 108 wires, each 38 L.S.G. diameter, .00322 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

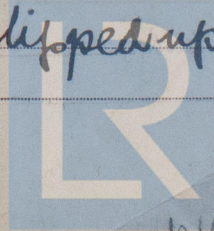
Pure rubber. Vulcanized rubber, taped & braided lead covered  
Engine room armoured over all - Mains ditto

Joints in cables, how made, insulated, and protected none

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 Armoured lead cord relipped up



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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 covering & steel armour.

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

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

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

How are cables carried through beams through holes-bushed-through bulkheads, &c. watertight glands

How are cables carried through decks iron tube

Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected steel armour

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 portable How fixed watertight plug

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.

**SWAN, HUNTER, & WIGHAM RICHARDSON, LD.**

J. J. Culley Secretary

Electrical Engineers

Date 13 June 1906

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 90 feet

Distance between dynamo or electric motors and steering compass 90 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>19</u> Amperes <u>eight</u> feet from <u>steering</u> standard compass	feet from steering compass
A cable carrying <u>—</u> Amperes <u>—</u> feet from standard compass	feet from steering compass
A cable carrying <u>—</u> Amperes <u>—</u> feet from standard compass	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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

**SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.**

Builder's Signature.

Date 21/6/06.

**GENERAL REMARKS.**

The installation examined & found satisfactory.

John H. Heck.

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

Committee's Minute

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



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25.6.06

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.