

[W/490]

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 73989

Port of London. Date of First Survey 1st Sept Date of Last Survey 4<sup>th</sup> Sep No. of Visits 2  
 No. in Reg. Book 437. on the ~~Iron~~ Steel "Highland Laddie" Port belonging to London.  
 Built at Birkenhead. By whom Cammell, Laird & Co. L<sup>td</sup> When built 1910. 4.  
 Owners the Nelson Str. Nav. Co. (H. W. Nelson) Owners' Address \_\_\_\_\_  
 Yard No. Additional Electric Light Installation fitted by H. J. Boothroyd & Co. Liverpool. When fitted 1911.

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 25 K.W. dynamo Compound wound (six pole.) Single Cylinder double Acting Engine R. F. M. 550 Open type  
 Capacity of Dynamo 227. Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Bottom platform Engine room Whether single or double wire system is used Double.  
 Position of Main Switch Board \_\_\_\_\_ having switches to groups 8-50 Ampere 2-50 Ampere lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each the way single pole

If cut outs are fitted on main switch board to the cables of main circuit \_\_\_\_\_ and on each auxiliary switch board to the cables of auxiliary circuits \_\_\_\_\_ and at each position where a cable is branched or reduced in size \_\_\_\_\_ and to each lamp circuit \_\_\_\_\_  
 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 \_\_\_\_\_  
 Are the cut outs of non-oxidizable metal \_\_\_\_\_ and constructed to fuse at an excess of \_\_\_\_\_ per cent over the normal current  
 Are all cut outs fitted in easily accessible positions \_\_\_\_\_ Are the fuses of standard dimensions \_\_\_\_\_ 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 cut-outs constructed of incombustible materials and fitted on incombustible bases \_\_\_\_\_

Total number of lights provided for \_\_\_\_\_ arranged in the following groups:—  
 A \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
 B \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
 C \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
 D \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
 E \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
 Mast head light with \_\_\_\_\_ lamps each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
 Side light with \_\_\_\_\_ lamps each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ 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 \_\_\_\_\_

### DESCRIPTION OF CABLES.

Main cable carrying 227 Amperes, comprised of 61 wires, each 15<sup>s</sup> L.S.G. diameter, 2548 square inches total sectional area  
 Branch cables carrying \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ L.S.G. diameter, \_\_\_\_\_ 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 \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ L.S.G. diameter, \_\_\_\_\_ 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.

Vulcanised India rubber. Tapes + braided 600 Megohm Grade.  
 Joints in cables, how made, insulated, and protected \_\_\_\_\_  
 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 \_\_\_\_\_



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible \_\_\_\_\_

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture \_\_\_\_\_

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

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

What special protection has been provided for the cables in engine room *Dynamo in main, slates on wooden grounds.*

How are cables carried through beams \_\_\_\_\_ through bulkheads, &c. \_\_\_\_\_

How are cables carried through decks \_\_\_\_\_

Are any cables run through coal bunkers \_\_\_\_\_ or cargo spaces \_\_\_\_\_ 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 \_\_\_\_\_

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 \_\_\_\_\_

Cargo light cables, whether portable or permanently fixed \_\_\_\_\_ 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 \_\_\_\_\_

**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.

For *H. & W. Nelson Ltd*

*A. Blackburn* Supt. Engineer

Electrical Engineers

Date \_\_\_\_\_

**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 Dynamo now fitted on board is an addition to the Electric Light Installation & the work, in my opinion appears to have been satisfactorily carried out. It is submitted that this vessel is eligible to remain as CLASSED.*

*H.G. Desorden*  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute \_\_\_\_\_

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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