

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2

Port of Glasgow Date of First Survey 28<sup>th</sup> Sept 1908 Date of Last Survey 8<sup>th</sup> Feb 1911 No. of Visits 13  
 No. in on the Iron or Steel S.S. Beothic Port belonging to  
 Reg. Book Built at Glasgow By whom W. H. Henderson & Co. When built 1907  
 Owners Owners' Address  
 Yard No. Electric Light Installation fitted by Nadrow & Co When fitted Glasgow

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Compound Wound Dynamo Coupled Direct on same bed-plate to one double acting open ported Steam Engine  
 Capacity of Dynamo 55 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 Alongside Dynamo having switches to groups A. B. C. D. E. of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Pantry - eight circuits, Steering Engine  
Space - eight circuits, Forecastle - four circuits, Engine Room, eight circuits  
 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 25 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 92 arranged in the following groups:—  

A	15	lights each of	16	candle power requiring a total current of	9.0	Amperes
B	29	lights each of	16	candle power requiring a total current of	14.4	Amperes
C	10	lights each of	16	candle power requiring a total current of	6.0	Amperes
D	28	lights each of	16	candle power requiring a total current of	16.8	Amperes
E	<u>Projection</u>	lights each of		candle power requiring a total current of	50.	Amperes
2	Mast head light with 2 lamps each of	32	candle power requiring a total current of	2.4	Amperes	
2	Side light with 2 lamps each of	32	candle power requiring a total current of	2.4	Amperes	
4	Cargo lights of	5.16 C.P. lamps	candle power, whether incandescent or arc lights	included in above		

  
 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 55 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .06039 square inches total sectional area  
 Branch cables carrying 9.0 Amperes, comprised of 4 wires, each 18 L.S.G. diameter, .01246 square inches total sectional area  
 Branch cables carrying 14.4 Amperes, comprised of 4 wires, each 16 L.S.G. diameter, .02214 square inches total sectional area  
 Leads to lamps carrying 6 Amperes, comprised of 3 wires, each 20 L.S.G. diameter, .002994 square inches total sectional area  
 Cargo light cables carrying 3 Amperes, comprised of 3 wires, each 20 L.S.G. diameter, .002994 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure Rubber, Vulcanized Rubber, Tape, Braiding & Compounding over all.  
 Joints in cables, how made, insulated, and protected Soldered & Insulated with Pure Para Rubber, Vulcanized Tape & Rubber Solution.  
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes 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 No  
 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



OF INSULATION, PROTECTION, ETC.—continued.

in places always accessible Yes

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

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

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

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

How are cables carried through beams Vulcanized fibre tubes through bulkheads, &c. Stuffing Glands.

How are cables carried through decks Iron pipes flanged to Deck

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 As required

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 Kept in cast iron covers

Where are the main switches and cut outs for these lights fitted 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 Bypass Switches & Plugs

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

The installation is supplied with a voltmeter and an amperemeter, fixed Main Switch Bd.

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 99 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.

Haddow & Co. Glasgow Electrical Engineers Date Feb. 15<sup>th</sup> 1909

COMPASSES.

Distance between dynamo or electric motors and standard compass 40 ft.

Distance between dynamo or electric motors and steering compass 45 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>9</u>	<u>20</u>	<u>25</u>	
<u>50</u>	<u>15</u>	<u>18</u>	

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.

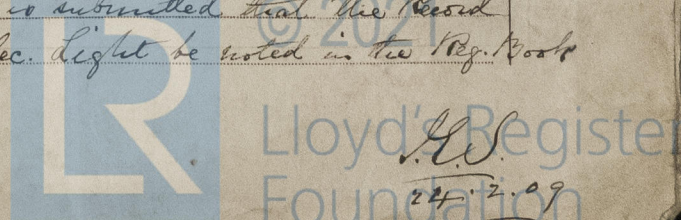
David & William Henderson & Co. Limited Builder's Signature. Date 17<sup>th</sup> Feb 09

GENERAL REMARKS. This installation has been well fitted on board and when run under ordinary working conditions was satisfactory.

Inspector (H. G.) F. E. on 21. A. M. McNeill  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute GLASGOW 23 FEB. 1909 It is submitted that the Record Elec. Light be noted in the Reg. Book

Electric Light. J. J.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.