

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 26942

Port of Glasgow Date of First Survey 7<sup>th</sup> July/08 Date of Last Survey 21<sup>st</sup> Aug/08 No. of Visits 9  
 No. in Reg. Book on the Iron or Steel SS "NGAHERA" Port belonging to Messrs A. Rodger & Co.  
 Built at Port Glasgow By whom Messrs A. Rodger & Co. When built 1908  
 Owners Messrs A. Rodger & Co. Owners' Address Messrs A. Rodger & Co.  
 Yard No. 407 Electric Light Installation fitted by Messrs Clarke Chapman & Co. Ltd. When fitted 1908

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo  
 Capacity of Dynamo 42 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed in 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 Each light & groups of lights provided with switches as required  
 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 cable Yes all circuits including lamp circuits Yes  
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess 50 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 fuse for each circuit Yes  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes Slate & porcelain  
 Total number of lights provided for 116 arranged in the following groups:  

A	<u>33</u>	lights each of	<u>16</u>	candle power requiring a	current of	<u>19.8</u>	Amperes
B	<u>30</u>	lights each of	<u>16</u>	candle power requiring	a total current of	<u>18</u>	Amperes
C	<u>36</u>	lights each of	<u>16</u>	candle power requiring a total current of		<u>21.6</u>	Amperes
D	<u>14</u>	lights each of	<u>16</u>	candle power requiring a total current of		<u>10.2</u>	Amperes
E	<u>—</u>	lights each of	<u>—</u>	candle power requiring a total current of		<u>—</u>	Amperes
<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of		<u>2.4</u>	Amperes
<u>2</u>	Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of		<u>2.4</u>	Amperes
<u>8</u>	Cargo lights of	<u>6-16</u>		candle power, whether incandescent or arc lights		<u>Incandescent</u>	

 If arc lights, what protection is provided against fire, sparks, &c. None fitted

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

## DESCRIPTION OF CABLES.

Main cable carrying 42 Amperes, comprised of 19 wires, each 15 L.S.G. diameter, .07500 square inches total sectional area  
 Branch cables carrying 19.8 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0221 square inches total sectional area  
 Branch cables carrying 4.8 Amperes, comprised of 1 wires, each 14 L.S.G. diameter, .00502 square inches total sectional area  
 Leads to lamps carrying 6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 3.6 Amperes, comprised of 146 wires, each 38 L.S.G. diameter, .00507 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wires & cables vulcanized india rubber, taped & braided and lead covered overall, where exposed steel armoured over the lead covering  
 Joints in cables, how made, insulated, and protected No joints except mechanical ones  
 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 Yes, 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 & armoured cables fixed close up to underside of deck with strong clips & screws



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *no*.

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered & armoured cable*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered & armoured*

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

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

How are cables carried through beams *in lead bushes* through bulkheads, &c. *in Bulkhead glands*

How are cables carried through decks *in galvanized iron deck tubes*

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 & Steel armoured*

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

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *to W.T. Cast iron Connection Boxes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double wire system*

How are the returns from the lamps connected to the hull

Are all the joints with the hull in accessible positions

The installation is *now* supplied with a voltmeter ~~and~~ *an amperemeter, fixed main 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 *100* 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 Clarke, Chapman & Co. Ltd.*

*W. Walker*

Chairman

Electrical Engineers

Date *August 31<sup>st</sup> 1908*

COMPASSES.

Distance between dynamo or electric motors and standard compass *66 ft.*

Distance between dynamo or electric motors and steering compass *60.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>6</i>	<i>12</i>	<i>6</i>	<i>6</i>
<i>6</i>	<i>6</i>	<i>12</i>	<i>12</i>
<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>

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 \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass and \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the steering compass.

*A. Rodger & Co.*

Builder's Signature.

Date *3<sup>rd</sup> Sept 1908.*

GENERAL REMARKS.

*This installation has been well fitted on board, & when seen working under ordinary conditions was satisfactory.*

*[Signature]*

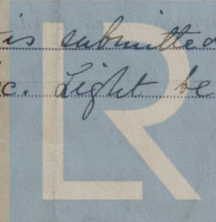
*A. H. Pilditch*

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

Committee's Minute *GLASGOW 22 SEP. 1908*

*Electric light 6.B.6*

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



Lloyd's Register of Shipping  
Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.