

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15323.

Port of Greenock. Date of First Survey 28<sup>th</sup> Jan 1908 Date of Last Survey 13<sup>th</sup> Mar 1908 No. of Visits 18.  
 No. in on the Iron or Steel S.S. Darent Port belonging to London  
 Reg. Book 43 Sup. Built at Port Glasgow By whom Messrs Ferguson Bros. When built 1908  
 Owners The Conservators of the River Thames Owners' Address London  
 Yard No. 176 Electric Light Installation fitted by Messrs Clarke Chapman & Co. 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 45 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine room bottom platform Whether single or double wire system is used Double wire

Position of Main Switch Board near 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 Each light & groups of lights fitted 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 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 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 size of fuse for each circuit yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes, porcelain & slate

Total number of lights provided for 64 arranged in the following groups:—

A	21	lights each of	16	candle power requiring a total current of	12.6	Amperes
B	18	lights each of	16	candle power requiring a total current of	10.8	Amperes
C	6	lights each of	16	candle power requiring a total current of	3.6	Amperes
D	13	lights each of	16	candle power requiring a total current of	7.8	Amperes
E	6	lights each of	16	candle power requiring a total current of	3.6	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
3	Cargo lights of	6 - 16	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 in chart house.

## DESCRIPTION OF CABLES.

Main cable carrying 45 Amperes, comprised of 19 wires, each 17 L.S.G. diameter, .04573 square inches total sectional area

Branch cables carrying 12.6 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .01246 square inches total sectional area

Branch cables carrying 7.8 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .00700 square inches total sectional area

Leads to lamps carrying 6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 176 wires, each 38 L.S.G. diameter, .00507 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanised 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 clipped up close under deck by strong galvanised iron clips.



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 and steel armoured

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

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

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

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

How are cables carried through decks in galvanised iron watertight deck tubes

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

If so, how are they protected Lead covered and 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 no

Cargo light cables, whether portable or permanently fixed portable How fixed In C.I. connection boxes

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 now supplied with a voltmeter and also an amperemeter, fixed on 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 2500 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*

*J. Walker*

Director

Electrical Engineers

Date

*March 16<sup>th</sup> 1908*

COMPASSES.

Distance between dynamo or electric motors and standard compass 62'

Distance between dynamo or electric motors and steering compass 56'

The nearest cables to the compasses are as follows:—

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

*Jerguson Bros*

Builder's Signature.

Date

*17<sup>th</sup> March 1908*

GENERAL REMARKS.

*The materials and workmanship are good. When completed the installation was tested and found to work satisfactorily.*

*Wm. Austin*

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

Committee's Minute

*Glasgow* 23 MAR 1908

*Recon Elec. Light.*

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



Lloyd's Register  
Foundation

*25.3.08*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.