

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 14774.

Port of Greenock Date of First Survey 26<sup>th</sup> May Date of Last Survey 21<sup>st</sup> June 06 No. of Visits 8  
 No. in Reg. Book on the Iron or Steel 7 S.S. Nile Port belonging to \_\_\_\_\_  
 Built at Greenock By whom Messrs Caird & Co When built 1906  
 Owners Peninsular & Oriental S.N.C. Ltd. Owners' Address London  
 Yard No. \_\_\_\_\_ Electric Light Installation fitted by Clark Chapman & Co Ltd. When fitted 1906

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two enclosed vertical Compound engines Coupled direct to two compound wound multipolar continuous current dynamos  
 Capacity of Dynamo 220 Amperes at 105 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed on shelf in Engine room, Portside Whether single or double wire system is used double wire in E. Room, single elsewhere.

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 & group of lights fitted with separate 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 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, slate & china

Total number of lights provided for 364 arranged in the following groups:—

A	<u>62</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>35.4</u>	Amperes
B	<u>107</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>54.6</u>	Amperes
C	<u>63</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>36</u>	Amperes
D	<u>79</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>43.2</u>	Amperes
E	<u>59</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>33.6</u>	Amperes
<u>2</u>	<u>Mast head light with 2 lamps each of</u>	<u>16</u>	candle power requiring a total current of	<u>1.1</u>	Amperes	
<u>2</u>	<u>Side light with 2 lamps each of</u>	<u>16</u>	candle power requiring a total current of	<u>1.1</u>	Amperes	
<u>14</u>	<u>Cargo lights of</u>	<u>3-16</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 in Chart Room

## DESCRIPTION OF CABLES.

Main cable carrying 205.8 Amperes, comprised of 37 wires, each 13 L.S.G. diameter, .2431 square inches total sectional area

Branch cables carrying 54.6 Amperes, comprised of 14 wires, each 16 L.S.G. diameter, .0603 square inches total sectional area

Branch cables carrying 7 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .0070 square inches total sectional area

Leads to lamps carrying .55 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 1.6 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .0070 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with vulcanized rubber, taped and braided and laid in wood casing, Excepting engine & boiler rooms where all wires are lead covered & armoured overall.

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 All wires & cables in wood casing excepting those in Engine & Boiler Rooms which are secured by brass 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 Wood Casings & pipes.

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

What special protection has been provided for the cables near boiler casings Lead covered and armoured

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 galvanized iron watertight deck tubes.

Are any cables run through coal bunkers — or cargo spaces — or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected in wood Casings

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes, in Baggage room

If so, how are the lamp fittings and cable terminals specially protected wires in wood Casings & W.I. Fittings.

Where are the main switches and cut outs for these lights fitted in Box in Baggage 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 in Watertight & Cor. Boxes

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Bolted to the beam.

How are the returns from the lamps connected to the hull with brass screws & washers.

Are all the joints with the hull in accessible positions yes

The installation is now supplied with a voltmeter and two amperemeters 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 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. Lt

*J. Walker*

Director.

Electrical Engineers

Date Sept 5<sup>th</sup> /06

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 120'

Distance between dynamo or electric motors and steering compass 112'

The nearest cables to the compasses are as follows:—

A cable carrying	<u>.55</u>	Amperes	<u>8</u>	feet from standard compass	<u>4</u>	feet from steering compass
A cable carrying	<u>.55</u>	Amperes	<u>4</u>	feet from standard compass	<u>8</u>	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 yes

The maximum deviation due to electric currents, etc., was found to be no degrees on any course in the case of the standard compass and no degrees on any course in the case of the steering compass.

FOR CAIRD AND COMPANY LIMITED.

*M. Macintosh*

Builder's Signature.

Date

11 SEP 1906

**GENERAL REMARKS.**

The materials and workmanship are good when completed the installation was tried and worked satisfactorily.

*Wm. Austin*

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

Committee's Minute

Glasgow 17 SEP 1906

Record 'Electric Light'

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

Lloyd's Register Foundation

19.9.06

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 18-21234