

WED. 16 NOV 1910

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 29493.

Port of Glasgow Date of First Survey 27<sup>th</sup> Sept. 10 Date of Last Survey Nov. 8<sup>th</sup> No. of Visits 14.  
 No. in Reg. Book on the ~~Iron~~ Steel S/S "COCONADA" Port belonging to Glasgow  
 Built at Whiteinch By whom Barclay Curle & Co. Ld. When built 1910  
 Owners British India Steam Navigation Co Owners' Address London  
 Yard No. 484. Electric Light Installation fitted by Siemens Bros. Dynamo Works Ltd. When fitted 1910.

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

2 Siemens 4 pole compound wound Dynamos, each coupled direct to a Shanks & Sons single cylinder open type engine 10" x 8".

Capacity of Dynamo 300. Amperes at 100. Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Main Engine room Whether single or double wire system is used double

Position of Main Switch Board Main Engine room having switches to groups A to D. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

2 of 5, & 1 of 3 switches in Engineer cabin Passage.  
1 of 4 switches in Engine room.

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 reduced and to each lamp circuit Yes.

If cessel 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 on cables Yes.

Are the cut outs of non-oxidizable metal Yes. and constructed to fuse at an excess of 100. 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 buses Yes.

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

A	<u>85.</u>	lights each of	<u>16.</u>	candle power requiring a total current of	<u>51.</u>	Amperes		
B	<u>120.</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>72.</u>	Amperes		
C	<u>80.</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>48</u>	Amperes		
D	<u>79.</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>50.</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>4.</u>	Cargo lights of	<u>8-16</u>	per cent	<u>—</u>	candle power, whether incandescent or arc lights	<u>incandescent.</u>	

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed in Chart room.

**DESCRIPTION OF CABLES.**

Main cable carrying 300. Amperes, comprised of 37. wires, each 12. L.S.G. diameter, .3. square inches total sectional area  
 Branch cables carrying 72 Amperes, comprised of 19. wires, each 14. L.S.G. diameter, .09372 square inches total sectional area  
 Branch cables carrying 18. Amperes, comprised of 7. wires, each 16. L.S.G. diameter, .022140 square inches total sectional area  
 Leads to lamps carrying 3 Amperes, comprised of 7. wires, each 22 L.S.G. diameter, .004238 square inches total sectional area  
 Cargo light cables carrying 4.5 Amperes, comprised of 7. wires, each 22 L.S.G. diameter, " " square inches total sectional area

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

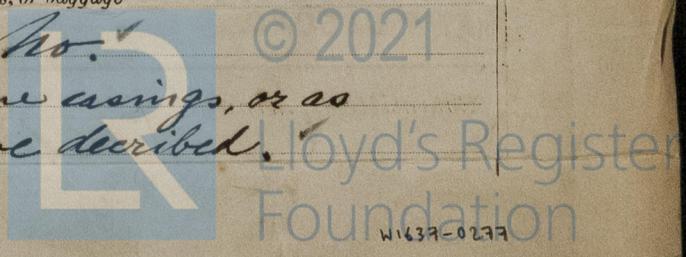
Conductors of high conductivity tinned copper wire, insulated with pure & vulcanized India rubber, taped braided & compounded, also as above but in addition taped lead covered & armoured with gal. steel wire and held in place with gal iron clips.

Joints in cables, how made, insulated, and protected Jointless system.

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 No.

How are the cables led through the ship, and how protected in teakwood or pine casings, or as above described.



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

Are they in places always accessible *Yes.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covers & armour.*

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

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 fibre plugs* through bulkheads, &c. *special gland.*

How are cables carried through decks *special Deck pipe.*

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

If so, how are they protected *Lead covered & armoured.*

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 *portable.* 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 *2* voltmeter and *2* amperemeter, fixed on *Main Switch board.*

**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.

SIEMENS BROTHERS DYNAMO WORKS LIMITED,  
MARINE DEPARTMENT.

Electrical Engineers

Date *Nov 8 1910*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *Pharinos over 100 feet.*

Distance between dynamo or electric motors and steering compass *" " "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>18.</i>	Amperes	<i>20.</i>	feet from standard compass	<i>20.</i>	feet from steering compass
A cable carrying	<i>.6</i>	Amperes	<i>3</i>	feet <i>in</i> from standard compass	<i>3</i>	feet <i>in</i> 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 *nil* degrees on *—* course in the case of the standard compass and *BARGRAY, CURLE & CO. LTD* degrees on *—* course in the case of the steering compass.

*L. H. Scully* Secretary.

Builder's Signature. Date

**GENERAL REMARKS.**

*This installation has been fitted on board under special survey, tested under full working conditions, and found satisfactory.*

*It is submitted that this vessel is eligible for THE RECORD, Elec. light.*

*JWD 17/11/10*

*H. C. Forster*  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

GLASGOW 15 NOV. 1910

*Electric Light*



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

12-11-10

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