

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2076

Port of PHILADELPHIA. Date of First Survey 6.10.13 Date of Last Survey 24.11.13 No. of Visits 7  
 No. in Reg. Book Supp 53 on the ~~Iron~~ or Steel SS. Santa Cecilia Port belonging to New York  
 Built at PHILADELPHIA. By whom The Wm. Humphreys & Co. P. E. B. E. When built 1913-11  
 Owners Atlantic & Pacific S.S. Co. Owners' Address Hampden Square New York  
 Yard No. 402 Electric Light Installation fitted by The Wm. Humphreys & Co. P. E. B. E. When fitted 1913-11

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

Two 15 K.W. Compound wound dynamos. Steam engine direct driven built by General Electric Co. 400 R.P.M.

Capacity of Dynamo 137 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed main platform of engine room Whether single or double wire system is used double

Position of Main Switch Board — 6 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 Panel 10 switches. Engine room 6 switches all in W.T. enclosed panels. 4 switches in pilot house.

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses 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 fuses for each circuit no wires used

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 239 arranged in the following groups:

A	<u>6</u>	lights each of	<u>5</u>	candle power requiring a total current of	<u>96</u>	Amperes
B	<u>67</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>33.50</u>	Amperes
C	<u>141</u>	lights each of	<u>20</u>	candle power requiring a total current of	<u>32.05</u>	Amperes
D	<u>16</u>	lights each of	<u>250</u>	candle power requiring a total current of	<u>36.36</u>	Amperes
E	<u>34</u>	<u>Fans</u> lights each of		candle power requiring a total current of	<u>17.00</u>	Amperes
	<u>2</u>	Mast head light with	<u>2</u> lamps each of	<u>30</u>	candle power requiring a total current of	<u>1.45</u> Amperes
	<u>2</u>	Side light with	<u>2</u> lamps each of	<u>30</u>	candle power requiring a total current of	<u>1.45</u> Amperes
	<u>✓</u>	Cargo lights of	<u>✓</u>	candle power, whether incandescent or arc lights	<u>—</u>	

If arc lights, what protection is provided against fire, sparks, &c. no arcs

Where are the switches controlling the masthead and side lights placed in pilot house

**DESCRIPTION OF CABLES.**

Main cable carrying 137 Amperes, comprised of 61 wires, each 17 S.W.G. diameter, 1525 square inches total sectional area  
 Branch cables carrying 42 Amperes, comprised of 37 wires, each 18 S.W.G. diameter, 1066 square inches total sectional area  
 Branch cables carrying 6 Amperes, comprised of 1 wires, each 14 S.W.G. diameter, 10502 square inches total sectional area  
 Leads to lamps carrying 5 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, 1032 square inches total sectional area  
 Cargo light cables carrying — Amperes, comprised of — wires, each — S.W.G. diameter, — square inches total sectional area

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

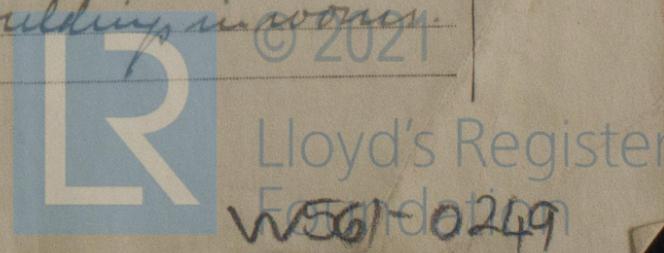
double rubber covered & braided then covered with a heavy waterproof compound & braided.

Joints in cables, how made, insulated, and protected mechanical joint; soldered covered with rubber compound taped & braided.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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

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 iron conduit mouldings in passage.



**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 iron conduits

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

What special protection has been provided for the cables near boiler casings No

What special protection has been provided for the cables in engine room No

How are cables carried through beams iron conduit through bulkheads, &c. do & W.T. fittings

How are cables carried through decks W.T. fittings

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 heavy conduit

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 fuses for these lights fitted -

If in the spaces, how are they specially protected -

Are any switches or fuses fitted in bunkers no

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 -

Is the installation supplied with a voltmeter yes, and with an amperemeter two, fixed on switchboard

**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas -

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

J. F. Mettler THE WM. CRAMP & SONS SHIP & ENGINE BUILDING CO. Electrical Engineers Date Dec 4-13

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 150 feet

Distance between dynamo or electric motors and steering compass 155 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>1</u>	Amperes	<u>10</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>1</u>	Amperes	<u>10</u>	feet from standard compass	<u>5</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 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 - degrees on - course in the case of the steering compass.

J. F. Mettler THE WM. CRAMP & SONS SHIP & ENGINE BUILDING CO. Builder's Signature. Date Dec 4-13

**GENERAL REMARKS.**

This installation of electric lighting has been fitted in accordance with the Rules of the Board of Trade. This lighting system has been tried to its full capacity and found to work well.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. JWD. 19/12/13. Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI. DEC. 19. 1913

5006.12—Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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