

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2845

Port of Philadelphia Date of First Survey 9<sup>th</sup> Jan'y 1918 Date of Last Survey 3<sup>rd</sup> May 18 No. of Visits 20  
 No. in Reg. Book on the Iron or Steel S/S. "PIQUA" Port belonging to Wilmington Del.  
 Built at Wilmington Del. By whom Pusey & Jones Co. When built 1918  
 Owners United States Shipping Board Owners' Address Washington D.C.  
 Yard No. 1001 Electric Light Installation fitted by Chas. Gray & Son Inc. When fitted 1918.

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

2-10 K.W. Dynamos - direct connected to Sturtevant Steam Engines, using steam at 100 lbs, 450 R.P.M.  
 Capacity of Dynamo 91 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Engine Room Whether single or double wire system is used double  
 Position of Main Switch Board Engine Room 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 (6) Engine Room, (4) Gunners' Quarters, (6) Midshiphouse, (4) Forecastle, (4) Afterhouse

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 fuse for each circuit not used  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 130 arranged in the following groups :-

A Engine Room	33 lights each of 25 watt	candle power requiring a total current of	7.5 Amperes
B Gunners' Quarters	17 lights each of (4) 100 w. (13) 25 w.	candle power requiring a total current of	12.8 Amperes
C Midshiphouse	42 lights each of (33) 40 w. (9) 25 w.	candle power requiring a total current of	14 Amperes
D Forecastle	7 lights each of 25 watt	candle power requiring a total current of	1.6 Amperes
E Afterhouse	31 lights each of 25 watt	candle power requiring a total current of	6.9 Amperes
2 Mast head light with 2 lamps each of	32 candle power	requiring a total current of	4 Amperes
2 Side light with 2 lamps each of	32 candle power	requiring a total current of	4 Amperes
4 Cargo lights of 6 lights - 40 w. each	candle power, whether incandescent or arc lights	8.8 AMPERES	

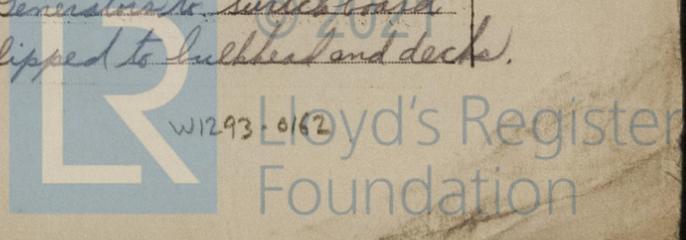
If arc lights, what protection is provided against fire, sparks, &c. not any used  
 Where are the switches controlling the masthead and side lights placed Wheelhouse

**DESCRIPTION OF CABLES.**

Main cable carrying	90 Amperes, comprised of	7 wires, each	12 S.W.G. diameter,	.0594 square inches total sectional area
Branch cables carrying	25 Amperes, comprised of	7 wires, each	20 S.W.G. diameter,	.00712 square inches total sectional area
Branch cables carrying	20 Amperes, comprised of	7 wires, each	19 S.W.G. diameter,	.0088 square inches total sectional area
Leads to lamps carrying	15 Amperes, comprised of	7 wires, each	22 S.W.G. diameter,	.0043 square inches total sectional area
Cargo light cables carrying	25 Amperes, comprised of	7 wires, each	19 S.W.G. diameter,	.0088 square inches total sectional area

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

Main Decker Cables are rubber covered, lead and steel braided, shelled and painted.  
Auxiliary Boards are placed in steel boxes with steel doors.  
 Joints in cables, how made, insulated, and protected Branch wires where tapped are wrapped mechanically tight, soldered and taped with ohonite and friction tape.  
 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 Enameled Conduit from Generator to Switchboard. Elsewhere via lead and steel armored cable securely clipped to bulkhead and decks.



**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 and Steel armored cable used throughout.

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

What special protection has been provided for the cables near boiler casings Lead and Armored Cable used

What special protection has been provided for the cables in engine room Lead and Armored Cable used Enameled Conduit from generators to switchboard.

How are cables carried through beams Lead Bushings through bulkheads, &c. Stuffing Tubes

How are cables carried through decks Rick Pipes, Lamp Wick, White Lead and Locknuts.

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 and Armored Cable used throughout.

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 Yes, 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.

Charles Coy & Son, Inc. BY Thomas Whiting Electrical Engineers Date May 9<sup>th</sup> 1918

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 40 ft.

Distance between dynamo or electric motors and steering compass 30 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	$\frac{1}{4}$	Amperes	2	feet from standard compass	2	feet from steering compass
A cable carrying	9	Amperes	8	feet from standard compass	8	feet from steering compass
A cable carrying	$\frac{1}{4}$	Amperes	6	feet from standard compass	6	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 \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass and \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the steering compass.

The Pusey & Jones Company BY J. Q. Layman, Chief Marine Eng. Builder's Signature. Date May 9<sup>th</sup> 1918

**GENERAL REMARKS.**

This installation has been well fitted and proved satisfactory under steam.

It is submitted that this vessel's REFRIGERATING INSTALLATION is eligible to remain as classed. Elec. light.

J. Blalock  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute Elec. Light New York MAY 21 1918

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

1163, 18—Transfer.

