

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2009

Port of PHILADELPHIA Date of First Survey 11-1-13 Date of Last Survey April 5-1913 No. of Visits 7  
 No. in Reg. Book 32 Supp on the Steel SS VESTA Port belonging to New York  
 Built at Camden N. J. By whom New York EB Co When built 1913-4  
 Owners Standard Oil Co Owners' Address 26 Broadway New York  
 Yard No. 131 Electric Light Installation fitted by New York EB Co When fitted 1913-4

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct connected generators & steam turbines built by the General Electric Co

Capacity of Dynamo 140 Amperes at 110 Volts, whether continuous or alternating current Continuous

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

Position of Main Switch Board — do — having switches to groups A, A', B, B', C, C', D & E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each A engine room (6) A' stateroom (6) B fire room (6) B' quarters amidships (10) C fore-castle (6) C' towing machine (4) D engine room for pump room (4) E port-quarters aft (6)

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 no wires used

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

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

A	26	lights each of	16	candle power requiring a total current of	13	Amperes
A'	26	lights each of	16	candle power requiring a total current of	13	Amperes
B	20	lights each of	16	candle power requiring a total current of	10	Amperes
B'	44	lights each of	16	candle power requiring a total current of	22	Amperes
C	20	lights each of	16	candle power requiring a total current of	10	Amperes
C'	19	lights each of	16	candle power requiring a total current of	9.5	Amperes
D	50	lights each of	16	candle power requiring a total current of	25	Amperes
E	20	lights each of	16	candle power requiring a total current of	10	Amperes
1	Mast head light with 2 lamps each of	16	candle power requiring a total current of	1	Amperes	
2	Side light with 2 lamps each of	16	candle power requiring a total current of	2	Amperes	
4	Cargo lights of <u>City</u>	16	candle power, whether incandescent or arc lights	<u>incandescent</u>		

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

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

## DESCRIPTION OF CABLES.

Main cable carrying 140 Amperes, comprised of 4/6 wires, each # 2 S.W.G. diameter, .182 square inches total sectional area

Branch cables carrying 50 Amperes, comprised of 19/15 wires, each # 2 S.W.G. diameter, .075 square inches total sectional area

Branch cables carrying 50 Amperes, comprised of 19/15 wires, each # 2 S.W.G. diameter, .075 square inches total sectional area

Leads to lamps carrying 5 Amperes, comprised of 1 wires, each # 14 S.W.G. diameter, .004 square inches total sectional area

Cargo light cables carrying 3 Amperes, comprised of 7/22 wires, each # 14 S.W.G. diameter, .0042 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

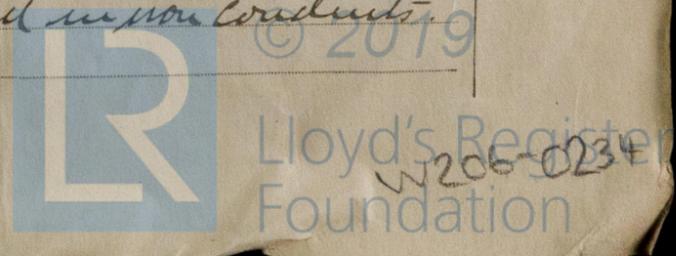
White core, double rubber covered & double braided with Grimshaw Tape

Joints in cables, how made, insulated, and protected mechanical joint. Cold lead (resin used as flux) covered with vulcanite rubber, taped and painted with insulating compound.

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 Completed encased in iron conduits.



**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 conduit

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

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

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

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

How are cables carried through decks W.T. fittings

Are any cables run through <sup>oil</sup> coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected ✓

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 permanently How fixed permanent fittings in upper dk.

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 two, and with an amperemeter yes two, fixed in 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 yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion yes

How are the lamps specially protected in places liable to the accumulation of vapour or gas vapor proof lamps.

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.

Hallagan Electrical Engineers Date April 17. 13

**COMPASSES.** W. P. S. 13. 9

Distance between dynamo or electric motors and standard compass 150 feet-

Distance between dynamo or electric motors and steering compass 140 -

The nearest cables to the compasses are as follows:—

A cable carrying	<u>.5</u>	Amperes	<u>1</u>	feet from standard compass	<u>1</u>	feet from steering compass
A cable carrying	<u>.5</u>	Amperes	<u>20</u>	feet from standard compass	<u>4</u>	feet from steering compass
A cable carrying	<u>.5</u>	Amperes	<u>10</u>	feet from standard compass	<u>10</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 no degrees on all courses in the case of the standard compass and - degrees on - course in the case of the steering compass.

Hallagan Builder's Signature. Date April 17. 13

W. P. S. 13. 9

**GENERAL REMARKS.**

This installation has been fitted in accordance with the Rules, the workmanship is sound & good. The electric light has been tried throughout & found to work well.

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

J. W. D. 6/9/13. Robert H. Hig.  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI. MAY 9 - 1913  
FRI. SEP. 12. 1913

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

