

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2925

Port of Philadelphia Date of First Survey 27th June Date of Last Survey 26th July No. of Visits 9
 No. in Reg. Book on the Iron or Steel S/S "MIDDLEBURY" 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. 1003. Electric Light Installation fitted by Chas Cory & Sons Inc. When fitted 1918.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 10 K.W. Dynamos, direct connected to Sturtevant Steam Engine 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) Midship house, (4) Forecastle, (4) After 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 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 137 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 Qtrs 17 lights each of (1) 100 W. (16) 25 W. candle power requiring a total current of 12.8 Amperes
 C Midship house 49 lights each of (19) 25 W. (30) 40 W. candle power requiring a total current of 15.3 Amperes
 D Forecastle 7 lights each of 25 W. candle power requiring a total current of 1.6 Amperes
 E after house 31 lights each of 25 W. 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 2 Amperes
2 Side light with 2 lamps each of 32 candle power requiring a total current of 2 Amperes
4 Cargo lights of (6) lights - 40 W. each candle power, whether incandescent or ~~arc~~ lights 7.3
 If arc lights, what protection is provided against fire, sparks, &c. Not any used 53.4
 Where are the switches controlling the masthead and side lights placed Wheel house

DESCRIPTION OF CABLES.

Main cable carrying 90 Amperes, comprised of 7 wires, each 7/16 10 B & S.W.G. diameter, .05707 square inches total sectional area
 Branch cables carrying 25 Amperes, comprised of 7 wires, each 7/16 19 B & S.W.G. diameter, .00708 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 7 wires, each 7/16 18 B & S.W.G. diameter, .00893 square inches total sectional area
 Leads to lamps carrying 15 Amperes, comprised of 7 wires, each 7/16 21 B & S.W.G. diameter, .00445 square inches total sectional area
 Cargo light cables carrying 25 Amperes, comprised of 7 wires, each 7/16 18 B & S.W.G. diameter, .00893 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main Feeder cables are rubber covered, lead and steel braided sheathed 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 In lead and steel armored cable securely clipped to bulkhead and decks



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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 galley 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

How are cables carried through beams Lead bushings through bulkheads, &c. Stuffing tubes

How are cables carried through decks Kick 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.

Ch. Cory & Sons & Thomas Whiting Electrical Engineers

Date 7-30-1918

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:—

Cable	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying $\frac{1}{4}$	2	2 feet from standard compass	2 feet from steering compass
A cable carrying $\frac{1}{4}$	8	8 feet from standard compass	8 feet from steering compass
A cable carrying $\frac{1}{4}$	6	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 Builder's Signature. Date 7-30-1918
BY H. D. Layman, Ch. Engr.

GENERAL REMARKS.

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

It is submitted that

this vessel is eligible for

THE SECOND. ELEC. LIGHT

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

Committee's Minute

Elec. LK New York AUG 26 1918

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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