

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 9269

Port of Wilmington Del Date of First Survey Dec 9 1918 Date of Last Survey May 23 1919 No. of Visits 74
 No. in Reg. Book on the Iron or Steel S.S. "Moline" Port belonging to Philadelphia
 Built at Wilmington By whom Pusey & Jones When built 1919
 Owners United States Shipping Board Owners' Address Washington
 Yard No. 1507 Electric Light Installation fitted by Long & Sons When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 - 10 K.W. D.C. Dynamos connected to Stearman Steam Engines using steam at 100 lbs., 450 R.P.M.

Capacity of Dynamo 90 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 F of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 6 Engine room, 6 Forecastle, 6 aft house, 6 Midship house, 6 Wheel 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 144 arranged in the following groups :-

| | | | | |
|---------------|--|--|------------------------------|--------------|
| A Eng. room | 50 lights each of 42-25w | 8-60w candle power | requiring a total current of | 13.9 Amperes |
| B Forecastle | 11 lights each of 10-25w | 1-100w candle power | requiring a total current of | 3.6 Amperes |
| C Aft house | 27 lights each of 26-25w | 1-100w candle power | requiring a total current of | 6.8 Amperes |
| D Mid house | 56 lights each of 17-25w, 39-40w, 18 fan outlets | candle power | requiring a total current of | 26.8 Amperes |
| E Searchlight | lights each of | candle power | requiring a total current of | 35 Amperes |
| F Wireless | 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 |
| | 1 Stern light 2 " | 32 " | " | 2 " |
| | 8 Cargo lights of 6 lights, 25 w each | candle power, whether incandescent or arc lights | | 10.9 |

If arc lights, what protection is provided against fire, sparks, &c. Not any used, except in searchlight

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 No. 10 B.S. S.W.G. diameter, | .05707 square inches total sectional area |
| Branch cables carrying | 25 Amperes, comprised of | 7 wires, each No. 19 B.S. S.W.G. diameter, | .00708 square inches total sectional area |
| " " " " | 50 " " " " | 7 " " No. 14 B.S. " " | .02258 " |
| Branch cables carrying | 20 Amperes, comprised of | 7 wires, each No. 18 B.S. S.W.G. diameter, | .00893 square inches total sectional area |
| Leads to lamps carrying | 15 Amperes, comprised of | 7 wires, each No. 21 B.S. S.W.G. diameter, | .00445 square inches total sectional area |
| Cargo light cables carrying | 25 Amperes, comprised of | 7 wires, each No. 18 B.S. 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, 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 oboite 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 bunks, 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 lead and steel armored cables secured by clips to bulthead 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.

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

How are cables carried through decks: Rick pipes, lamp nich, 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 control board

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 H. Whittemore Electrical Engineers Date 5-23-19

COMPASSES.

Distance between dynamo or electric motors and standard compass 50 ft.

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

The nearest cables to the compasses are as follows:—

| | | |
|------------------------------------|-------------------------------------|-------------------------------------|
| A cable carrying <u>7</u> Amperes | <u>2</u> feet from standard compass | <u>2</u> feet from steering compass |
| A cable carrying <u>9</u> Amperes | <u>8</u> feet from standard compass | <u>8</u> feet from steering compass |
| A cable carrying <u>35</u> Amperes | <u>5</u> feet from standard compass | <u>5</u> feet from steering compass |

Have the compasses been adjusted with and without the electric installation at work at full power No

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 Pussey and Jones Company 370, Layman, C.S. Builder's Signature. Date MAY 23RD 1919

GENERAL REMARKS.

This electric lighting installation has been well fitted in accordance with the rules, and proved satisfactory on trial

It is submitted that this vessel is eligible for THE RECORD, ELEC. LIGHT

Wm. Runkham
Surveyor to Lloyd's Register of Shipping.

Committee's Minute Elec Lt New York JUN - 3 1919



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

15c, 116—Transfer.