

Rpt. 13.

REC'D NEW YORK Nov 20 1918

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2358 3918

Port of Philadelphia Date of First Survey Sept 4 Date of Last Survey Nov 15 No. of Visits 13
 No. in on the Iron or Steel S.S. Lynchburg Port belonging to Philadelphia
 Reg. Book Built at Wilmington, Del By whom Pusey & Jones When built 1918
 Owners Emergency Steel Corp Owners' Address Washington When fitted 1918
 Yard No. 1004 Electric Light Installation fitted by Pusey & Jones

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

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 1-1000w, 16-25w candle power requiring a total current of 12.8 Amperes

C Midshiphouse 49 lights each of 19-25w, 30-40w candle power requiring a total current of 15.3 Amperes

D Forecastle 7 lights each of 25w candle power requiring a total current of 1.6 Amperes

E Afterhouse 31 lights each of 25w 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, 40w each candle power, whether incandescent or arc lights 7.3

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 7/16 S.W.G. diameter, .05707 square inches total sectional area

Branch cables carrying 25 Amperes, comprised of 7 wires, each 7/16 S.W.G. diameter, .00708 square inches total sectional area

Branch cables carrying 20 Amperes, comprised of 7 wires, each 7/16 S.W.G. diameter, .00893 square inches total sectional area

Leads to lamps carrying 15 Amperes, comprised of 7 wires, each 7/16 S.W.G. diameter, .00445 square inches total sectional area

Cargo light cables carrying 25 Amperes, comprised of 7 wires, each 7/16 S.W.G. diameter, .00893 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main Deeder 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 obonite 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.

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, lampwick, 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. Cary Low Whitson Electrical Engineers Date Nov. 18, 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	Amperes	feet from standard compass	feet from steering compass
<u>1/4</u>	<u>4</u>	<u>2</u>	<u>2</u>
<u>9</u>	<u>9</u>	<u>8</u>	<u>8</u>
<u>1/4</u>	<u>4</u>	<u>6</u>	<u>6</u>

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 all course in the case of the standard compass and nil degrees on all course in the case of the steering compass.

N. Trauer Builder's Signature. Date 25-11-18

GENERAL REMARKS.

This electric lighting installation has been fitted in accordance with the rules and found satisfactory. The lighting system has been tried at full power and found to work well.

It is submitted that this vessel is eligible for THE RECORD Elec. light. Wm. Tumham Surveyor to Lloyd's Register of Shipping. 3/12/18. Elec. Lt Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.