

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Philadelphia Date of First Survey July 13-18 Date of Last Survey Sept 22-18 No. of Visits 13
 No. in on the ~~Iron~~ Steel SS. O.T. Waring Port belonging to Philadelphia Pa
 Reg. Book 1446 Built at Wilmington Del By whom Bethlehem Ship Bldg Co (Harden Plant) When built 1917-18
 Owners Standard Oil Co. Owners' Address 26 Broadway, N.Y.C.
 Yard No. 446 Electric Light Installation fitted by Bethlehem Ship Bldg Co. (Harden Plant) When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Dynamos, Direct Connected to Sturtevant Steam engines using steam at 80 lbs. 450 R.P.M.

Capacity of Dynamo 228 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 5 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Auxillary switchboard for emergency dynamo located upper deck under center house. Engine room 6, Forecastle 4, Midship 10, Upper deck aft 4.

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 180 Fixed 16 Portable arranged in the following groups:—

A Engine room 62 lights each of 20-60 watt 42-40 watt candle power requiring a total current of 13.5 Amperes

B Forecastle 18 lights each of 40 Watt candle power requiring a total current of 6.5 Amperes

C Midship 59 lights each of 40 Watt candle power requiring a total current of 21.5 Amperes

D Upper deck 41 lights each of 40 Watt candle power requiring a total current of 15 Amperes

E lights each of candle power requiring a total current of Amperes

2 Mast head light with 3 lamps each of 32 candle power requiring a total current of 3 Amperes

2 Side light with 2 lamps each of 32 candle power requiring a total current of 3 Amperes

4 Cargo lights of 64 each candle power, whether incandescent or arc lights Incandescent

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

Where are the switches controlling the masthead and side lights placed In wheel house.

DESCRIPTION OF CABLES.

Main cable carrying 114 Amperes, comprised of 19 wires, each 13 S.W.G. diameter, .161 square inches total sectional area

Branch cables carrying 13.5 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .0352 square inches total sectional area

Branch cables carrying 5.5 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .0225 square inches total sectional area

Leads to lamps carrying 14 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .0352 square inches total sectional area

Cargo light cables carrying 2 Amperes, comprised of 40 wires, each 28 S.W.G. diameter, .00688 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main Feeder cables are rubber covered, Braided and lead encased, and run in iron armored Conduit (Galvanized). All auxillary boards are installed in steel boxes with plate linings and steel doors.

Joints in cables, how made, insulated, and protected Branch wires when tapped are wrapped mechanically tight, soldered and taped with Oxonite and friction tape 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 Galvanized iron armored Conduit.



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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 *Iron Armored Conduit and watertight junction boxes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Iron Armored Conduit.*

What special protection has been provided for the cables near boiler casings *Air space of 10 ft. - Bored in.*

What special protection has been provided for the cables in engine room *Iron armored Conduit.*

How are cables carried through beams *Iron Armored Conduit,* through bulkheads, &c. *Iron armored Conduit.*

How are cables carried through decks *Brass nipples, made tight with lamp wick and lock nuts.*

Are any cables run through coal bunkers *Yes* or cargo spaces *No* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *Iron armored Conduit securely boxed in.*

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 *Heavy guarded S.T.G. fixtures*

Where are the main switches and fuses for these lights fitted *In Eng. room, in steel box plate lined.*

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 *No*

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.

see below for signature

Electrical Engineers

Date *✓*

COMPASSES.

Distance between dynamo or electric motors and standard compass

250 Feet

Distance between dynamo or electric motors and steering compass

250 Feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>15</i>	<i>2</i>	<i>2</i>	
<i>21.5</i>	<i>30</i>	<i>24</i>	
<i>4</i>	<i>10</i>	<i>8</i>	

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.

BETHLEHEM SHIPBUILDING CO. LTD. BETHLEHEM

Builder's Signature.

Date

Sept 25 1918

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 recommended that this vessel be equipped for THE ASSOCIATED ELEC. LIGHT

Wm. Rumham

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. Lt.

New York OCT 8 1918

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.