

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1166

Port of Boston, Mass. Date of First Survey 16 Apr 1919 Date of Last Survey 14 June 1919 No. of Visits 11
 No. in on the ~~Iron~~ Steel Sts SHENANDOAH Port belonging to Bath, Me.
 eg. Book Built at Bath, Me. By whom The Texas Steamship Co. When built 1915
 Owners U.S. Shipping Board, Emergency Fleet Corp. Owners' Address Washington D.C.
 Card No. 11 Electric Light Installation fitted by The Texas Steamship Co. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 10 KW General Electric Generators direct driven by vertical steam engines
 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,F,G,H,I,K,L,M of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1 on #1 pump room companion with 6, One on #2 pump room companion with 6
in bridge house with 4, One in forepeak with 4, One in pipe alley with 2, One in aft quarter port + One in aft quarter starboard with
2, Two in engine room with 2 each, One in Boiler room entrance with 6, One in steering engine room with 2
 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 no
 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 all but lamp circuits
 are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of less than 100 per cent over the normal current
 are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions standard type 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 on fuse cases
 are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes
 total number of lights provided for 230 arranged in the following groups:—

<u>Hospital Hatch</u>	lights each of		candle power requiring a total current of	<u>13</u>	Amperes
<u>Pump Rooms</u>	<u>12</u> lights each of	<u>average 80</u>	candle power requiring a total current of	<u>10.8</u>	Amperes
<u>Quarters Fore</u>	<u>43</u> lights each of	<u>average 32</u>	candle power requiring a total current of	<u>19.7</u>	Amperes
<u>Wireless</u>	lights each of		candle power requiring a total current of	<u>18</u>	Amperes
<u>Searchlight</u>	lights each of		candle power requiring a total current of	<u>30</u>	Amperes
<u>4 Mast head light with</u>	<u>1</u> lamps each of	<u>48</u>	candle power requiring a total current of	}	Amperes
<u>2 Side light with</u>	<u>1</u> lamps each of	<u>48</u>	candle power requiring a total current of		
<u>8</u>	Cargo lights of	<u>320</u>	candle power, whether incandescent or arc lights	<u>incandescent.</u>	

 arc lights, what protection is provided against fire, sparks, &c.
 where are the switches controlling the masthead and side lights placed engine room + pilot house

DESCRIPTION OF CABLES.

one cable carrying	<u>91</u> Amperes, comprised of	<u>19</u> wires, each	<u>.074"</u> <u>13 B+S</u> diameter,	<u>.083</u> square inches total sectional area	<u>0774</u>
each cables carrying	<u>13</u> Amperes, comprised of	<u>7</u> wires, each	<u>.04"</u> <u>18 B+S</u> diameter,	<u>.014</u> square inches total sectional area	<u>00875</u>
each cables carrying	<u>10.8</u> Amperes, comprised of	<u>7</u> wires, each	<u>.04"</u> <u>19 B+S</u> diameter,	<u>.014</u> square inches total sectional area	<u>00875</u>
cables to lamps carrying	<u>4</u> Amperes, comprised of	<u>1</u> wires, each	<u>.064"</u> <u>14 B+S</u> diameter,	<u>.003</u> square inches total sectional area	<u>00312</u>
to light cables carrying	<u>4</u> Amperes, comprised of	<u>1</u> wires, each	<u>.064"</u> <u>14 B+S</u> diameter,	<u>.003</u> square inches total sectional area	<u>00312</u>

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Heavy rubber insulation covered with braided waterproof fibre +
encased in steel conduit throughout.
 in cables, how made, insulated, and protected Soldered, well taped + made in metal junction
 are there any joints in or branches from the cable leading from dynamo to main switch board no
 are the cables led through the ship, and how protected Steel conduit.

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 *Steel conduit*

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

What special protection has been provided for the cables near boiler casings *Steel conduit*

What special protection has been provided for the cables in engine room *Steel conduit*

How are cables carried through beams *Steel conduit* through bulkheads, f.c. *Steel conduit made tight*

How are cables carried through decks *Steel conduit made watertight*

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

If so, how are they protected *Steel conduits run high up under deck*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes*

If so, how are the lamp fittings and cable terminals specially protected *Vessel intended for oil fuel. If ever compelled to burn coal, lamp fittings in bunkers will be removed*

Where are the main switches and fuses for these lights fitted *engine room*

If in the spaces, how are they specially protected *no*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *Permanently fixed* How fixed *Standards on bridge + poop.*

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 with 2*, fixed on main switches *F, H, J, K, L, M*

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 *no*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *Heavy gas tight globes with wire guards*

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.

The Texas Steamship Co Electrical Engineers Date *June 25, 1919*
Geo. R. Epland, Supt

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 200 feet*

Distance between dynamo or electric motors and steering compass *about 200*

The nearest cables to the compasses are as follows:—

A cable carrying <i>Binnacle</i>	$\frac{1}{4}$ Amperes	<i>close to</i> feet from standard compass	<i>close to</i> feet from steering compass
A cable carrying <i>Signal light</i>	3.3 Amperes	<i>abt 6</i> feet from standard compass	<i>abt 6</i> feet from steering compass
A cable carrying <i>Search light</i>	30 Amperes	<i>about 12</i> feet from standard compass	<i>about 12</i> 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 standard compass and _____ degrees on _____ course in the case of the steering compass.

The Texas Steamship Co Builder's Signature. Date *June 25, 1919*
Geo. R. Epland, Supt

GENERAL REMARKS. This Electric Light Installation has been fitted in accordance with the Rules + the workmanship + material are good. It has been satisfactorily tried under full load + it is now in good + safe working condition + eligible, in my opinion, to receive the notation 'ELEC LIGHT' in the Register Book.

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

John S. Heck
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *Elec Lt* New York JUL - 1 1919

Electric Light Installation of

S/S Shenandoah of Bath, Me

Groups of Lights continued

Quarters aft	73 lights each of 32 cp. requiring a total current of 30 amperes
Lower E.R.	18 " " " 32 " " " " " 6 "
Upper " "	25 " " " 32 " " " " " 10 "
Boiler Room	42 " " " 32 " " " " " 15.3 "
Poop	3 " " " 32 " " " " " 1.2 "

Description of Cables continued

G, D, E requiring a maximum of 30 amperes comprised of 7 wires each .064" dia .022" total sectional area
F, H, J, K, L, M " " " 30 " " " 7 " .04 .014 " " "

John S. Heck