

Rpt. 13.

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Philadelphia Date of First Survey 13th Jan'y 19 Date of Last Survey 2nd Aug No. of Visits 33.
 No. in 1 on the Iron or Steel 1/2 "LIBERTY LAND" Port belonging to Philadelphia
 Reg. Book Built at Philadelphia By whom American International Corp When built 1919
 Owners United States Shipping Board Owners' Address Washington D. C.
 Yard No. 520 Electric Light Installation fitted by American International Corp When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamos two-15 K.W. 125 Volts, compound wound, direct connected, to vertical marine type, operating at 80-125 lbs. pressure made by General Electric Co.

Capacity of Dynamos 2 of 120 Amperes at each at 125 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Flat Starboard side of Engine Room whether single or double wire system is used double wire

Position of Main Switch Board Dynamo Flat near 109 BLK having switches to groups 7 lighting panels of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Panel G-Engine & Boiler Room-8 circuits; D-Bridge deck Port-6cir; C-Bridge deck starboard-4cir; B-Officers Qtrs-9cir; A-Forecastle 5 cir; F-Poop-7cir; H-Pilot House-6cir;

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 125 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 cartridge fuses

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 249 arranged in the following groups:—

A Forecastle	lights each of	15-25 " 200	candle power requiring a total current of	9.5	Amperes
B Officers Qtrs.	lights each of	61-10 " 200	candle power requiring a total current of	28.7	Amperes
C Starboard "	lights each of	25-25 " 200	candle power requiring a total current of	12.5	Amperes
D Port "	lights each of	43-25 " 200	candle power requiring a total current of	20.5	Amperes
F Poop "	lights each of	37-10 " 200	candle power requiring a total current of	19.2	Amperes
G Engine & Boiler Room	lights each of	62-25 " 200	candle power requiring a total current of	33.6	Amperes
H Pilot House	lights each of	3-50 " 4000	candle power requiring a total current of	37.3	Amperes
1 Mast head light with 1 lamp	each of	50	candle power requiring a total current of	0.9	Amperes
2 Side light with 1 lamp	each of	50	candle power requiring a total current of	0.9	Amperes
13 Cargo lights of		200	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. Arc light with enclosed carbons for search light

Where are the switches controlling the masthead and side lights placed Panel H wheel House

DESCRIPTION OF CABLES.

Main cable carrying	120	Amperes, comprised of	Strand wires, each	#00	S.W.G. diameter,	0.104	square inches total sectional area
Branch cables carrying	50	Amperes, comprised of	" wires, each	#2	S.W.G. diameter,	0.052	square inches total sectional area
	35		" wires, each	6	S.W.G. diameter,	0.021	square inches total sectional area
Branch cables carrying	22	Amperes, comprised of	" wires, each	10	S.W.G. diameter,	0.0082	square inches total sectional area
	18		Solid wires, each	12	S.W.G. diameter,	0.0051	square inches total sectional area
Leads to lamps carrying	10	Amperes, comprised of	" wires, each	14	S.W.G. diameter,	0.0032	square inches total sectional area
Cargo light cables carrying	10	Amperes, comprised of	" wires, each	12	S.W.G. diameter,	0.0051	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All lighting wires in galvanized conduit $\frac{1}{2}$ in to $1\frac{1}{2}$ in in dia.

#00, #2, #6, Rubber covered tape and braid code wire
 #10, #12 and #14 " " single braid code wire

Joints in cables, how made, insulated, and protected

In boxes at conduit Junction (Benj. C.D. Boxes)

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 Galvanized conduit from switchboard to

How are the cables led through the ship, and how protected fixtures



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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 In water tight conduit with locknuts and washers at bulkheads

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat In galvanized iron conduit

What special protection has been provided for the cables near boiler casings galvanized iron conduit

What special protection has been provided for the cables in engine room " " "

How are cables carried through beams Steel conduit in drilled holes through bulkheads, &c. with locknuts and washers

How are cables carried through decks Steel conduit with locknuts and washers

Are any cables run through coal bunkers no or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage Steel conduit with guards

If so, how are they protected in steel conduit

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage not in Cargo space

If so, how are the lamp fittings and cable terminals specially protected no lamps in cargo space or coal bunkers

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 " " " " " " " "

Cargo light cables, whether portable or permanently fixed Portable How fixed not fixed

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel double wire system used

How are the returns from the lamps connected to the hull double wire system with no grounds

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 yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion not oil carrier

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.

L. O. Murphy

Electrical Engineers

Date July 31, 1919.

COMPASSES.

Distance between dynamo or electric motors and standard compass 100 ft.

Distance between dynamo or electric motors and steering compass 110 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>40</u>	<u>6</u>	<u>5</u>	<u>5</u>
<u>4</u>	<u>6</u>	<u>5</u>	<u>5</u>
<u>2</u>	<u>4</u>	<u>4</u>	<u>4</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 0 degrees on 0 course in the case of the standard compass and 0 degrees on 0 course in the case of the steering compass.

J. L. Ames

Builder's Signature.

Date

GENERAL REMARKS.

This electric lighting installation has been well fitted and proved satisfactory on trial

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

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

Committee's Minute

Elec Lt.

Recd. 6/10/19



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