

Rpt. 13.

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Philadelphia Date of First Survey 25 Feb 19 Date of Last Survey 21 Aug 19 No. of Visits 22
 No. in Reg. Book on the Iron or Steel 1/6 "AFEL" Port belonging to Philadelphia
 Built at Philadelphia By whom American International Corp When built 1919
 Owners United States Shipping Board Owners' Address Washington D.C.
Emergency State Corporation
 Yard No. 533 Electric Light Installation fitted by American International Corp When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo 100-15 H.P. 125 Volts, compound wound direct connected, to vertical type, operated at 80-125 lbs pressure, made by General Electric Co.
 Capacity of Dynamo 2 of 125 Amperes at each of 125 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Starboard side of engine Whether single or double wire system is used double wire
 Position of Main Switch Board Dynamo Room 109 Plg. having switches to groups 4 lighting panels of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Panel C-Engine & Boiler Rm. 5-Circuit; Bridge deck Port-6 Cir; C-Bridgedeck Starboard-4-cir; B-Officers Qtrs-5 Cir; A-Forecastle 5-Cir; E-Boop-7 Cir; H-Pilot House-5 Cir;
 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 :-

Group	Description	Watts	Amperes
A	Forecastle lights each of 15-25 to 200	9.5	Amperes
B	Officers Qtrs lights each of 61-10 1 200	28.7	Amperes
C	Starboard lights each of 25-25 to 200	18.5	Amperes
D	Port lights each of 15-25 1 200	20.5	Amperes
E	Boop lights each of 30-10 1 200	19.2	Amperes
F	G-Engine & Boiler lights each of 60-25 1 200	33.0	Amperes
H	Pilot House lights each of 3-50 1 1000	37.5	Amperes
1	Mast head light with 1 lamps each of 50	0.5	Amperes
2	Side light with 1 lamps each of 50	0.9	Amperes
13	Cargo lights of 200	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 E-Steel House

DESCRIPTION OF CABLES.

Main cable carrying 120 Amperes, comprised of 5 wires, each 100 S.W.G. diameter, 0.124 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 5 wires, each 12 S.W.G. diameter, 0.044 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 5 wires, each 12 S.W.G. diameter, 0.044 square inches total sectional area
 Leads to lamps carrying 10 Amperes, comprised of 5 wires, each 12 S.W.G. diameter, 0.044 square inches total sectional area
 Cargo light cables carrying 10 Amperes, comprised of 5 wires, each 12 S.W.G. diameter, 0.044 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All lighting wires in galvanized conduit 1/2 to 1 1/2 in. dia.
100, #21 for Rubber Covered Cable and braided cable wire
10, #12 and #14 " single braid cable wire
 Joints in cables, how made, insulated, and protected In boxes at conduit junctions (Sept. 2-1919)
 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 conduit from switchboard to fixtures



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** 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 used 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 30, 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	40	Amperes	6	feet from standard compass	5	feet from steering compass
A cable carrying	4	Amperes	6	feet from standard compass	5	feet from steering compass
A cable carrying	2	Amperes	4	feet from standard compass	4	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 **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.

G. James

Builder's Signature.

Date **July 30, 1919.**

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.

Roll 6/10/19

J. Bellrock

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec dt

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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