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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3220

Port of Philadelphia Date of First Survey 22nd Aug. 1918 Date of Last Survey 4th April 1919 No. of Visits 48
 No. in on the ~~Iron~~ Steel SCREW STEAMER "SAHALE" Port belonging to Philadelphia, Pa.
 Reg. Book Built at Philadelphia, Pa. By whom American International Corp When built 1919
 Owners United States Shipping Board Owners' Address Washington D. C.
 Yard No. 500 Electric Light Installation fitted by American International Corp When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Generators-2-15 K.W. Gen. Elect. Co., 125 volts, driven by vertical marine type engines
 80-125 lb. steam pressure

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

Where is Dynamo fixed Engine Rm. Strb'd on Dynamo flat Whether single or double wire system is used double wire

Position of Main Switch Board Engine Room having switches to groups 7 Panels of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Panel G-Engine & Boiler Room 20; Panel D

Bridge deck Port-6 cir; Panel C- Bridge Deck starboard-4 cir; Panel B-O Officer's quarters

9-cir Panel A- Forecastle-4 cir; Panel F Poop-6 cir; Panel H Pilot House -6 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 all cartridge fuses

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

Total number of lights provided for 245 arranged in the following groups:-

A Forecastle 10 lights each of 25 to 200 candle power requiring a total current of 3.0 Amperes

B Officer's quarters 10 lights each of 100 candle power requiring a total current of 26.7 Amperes

C Starboard deck 20 lights each of 25 to 200 candle power requiring a total current of 12.5 Amperes

D Port deck 4 lights each of 25 to 200 candle power requiring a total current of 20.5 Amperes

E Engine room 10 lights each of 100 candle power requiring a total current of 26.7 Amperes

(Includes search light)
 Must heat light with 2 lamps each of 50 candle power requiring a total current of 0.6 Amperes

2 Side light with 1 lamps each of 50 candle power requiring a total current of 0.6 Amperes

13 Cargo lights of 200 Watts candle power, whether incandescent or are lights Incandescent

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

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 Stranded, 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

Branch cables carrying 35 Amperes, comprised of " wires, each # 6 S.W.G. diameter, 0.021 square inches total sectional area

Leads to lamps carrying 22 Amperes, comprised of SOLID wires, each # 10 S.W.G. diameter, 0.0082 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

Cargo light cables carrying 10 Amperes, comprised of " wires, each # 14 S.W.G. diameter, 0.0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All lighting wires in galvanized conduit 1/2 in. to 1 1/2" dia. #00 #2, #6 Rubber covered Type and braid code wire #10 #12, #14 Rubber covered single braid code wire

Joints in cables, how made, insulated, and protected In boxes at conduit junction (Use Benjamin C.I. 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 no

How are the cables led through the ship, and how protected Galvanized conduit from switchboard to fixture



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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 lock nuts 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 steel conduit

What special protection has been provided for the cables near boiler casings In 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 " " 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 In 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 no 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 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. Murphy

Electrical Engineers

Date March 25, 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 <u>40</u> Amperes	<u>6</u> feet from standard compass	<u>5</u> feet from steering compass
A cable carrying <u>4</u> Amperes	<u>6</u> feet from standard compass	<u>5</u> feet from steering compass
A cable carrying <u>2</u> Amperes	<u>4</u> feet from standard compass	<u>4</u> 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. J. James

Builder's Signature.

Date 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.

JWR Rel 30-5-19

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

Committee's Minute

Elec. Lt. New York MAY 7 1919

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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