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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 98.

Port of *Wilmington N.C.* Date of First Survey *25th Jan 20* Date of Last Survey *29th May 20* No. of Visits *15*.
No. in on the ~~Iron~~ or Steel *St. L.* *City of Joliet* Port belonging to *Wilmington N.C.*
Reg. Book Built at *Wilmington* By whom *George A. Fuller Co.* When built *1920-5*.
Owners *U. S. Shipping Board, U. S. Corporation* Owners' Address *140 North Broad Street Philadelphia Pa.*
Yard No. *1448* Electric Light Installation fitted by *George A. Fuller Co.* When fitted *1920*.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 General Electric Marine Generating sets consisting of G.E. 8x6 single cylinder double acting engine and S.C. Generator on continuous base

Capacity of Dynamo *130* Amperes at *115* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Star. side of engine room* Whether single or double wire system is used *double*

Position of Main Switch Board *Engine room* having switches to groups and subpanels of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Forward deck house 8 circuits. Side deck houses 6 circuits and Poop 4 circuits.*

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 *25* ✓ 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 *none used* ✓

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases *Yes* ✓

Total number of lights provided for *223* arranged in the following groups:—

A	<i>4</i>	lights each of	<i>100 Watts</i>	candle power requiring a total current of	Amperes
B	<i>208</i>	lights each of	<i>50 "</i>	candle power requiring a total current of	Amperes
C	<i>6</i>	lights each of	<i>15 "</i>	candle power requiring a total current of	Amperes
D	<i>5</i>	lights each of	<i>10 "</i>	candle power requiring a total current of	Amperes
E		lights each of		candle power requiring a total current of	Amperes
<i>2</i>		Mast head light with	<i>2</i> lamps each of <i>16</i>	candle power requiring a total current of	Amperes
<i>2</i>		Side light with	<i>2</i> lamps each of <i>16</i>	candle power requiring a total current of	Amperes
<i>9 x 4</i>		Cargo lights of	<i>50 Watts</i>	candle power, whether incandescent or are lights <i>incandescent</i>	

If are lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed *Pilot room*

DESCRIPTION OF CABLES.

Main cable carrying	<i>120</i>	Amperes, comprised of	<i>2</i>	wires, each	<i>00 B.S.</i> S.W.G. diameter,	✓	square inches total sectional area
Branch cables carrying	<i>20</i>	Amperes, comprised of	<i>2</i>	wires, each	<i>4 B.S.</i> S.W.G. diameter,	✓	square inches total sectional area
Branch cables carrying	<i>15</i>	Amperes, comprised of	<i>2</i>	wires, each	<i>6 B.S.</i> S.W.G. diameter,	✓	square inches total sectional area
Leads to lamps carrying	<i>5</i>	Amperes, comprised of	<i>2</i>	wires, each	<i>14 B.S.</i> S.W.G. diameter,	✓	square inches total sectional area
Cargo light cables carrying	<i>2</i>	Amperes, comprised of	<i>2</i>	wires, each	<i>14 B.S.</i> S.W.G. diameter,	✓	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wires and cables rubber insulated, braided and enclosed in iron conduits

Joints in cables, how made, insulated, and protected *soldered, wound with rubber and friction tape and schellack*

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

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 *in iron conduits*



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *no - main feeders pass through cargo spaces but protected.*
What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *conduit*

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

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

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

How are cables carried through beams *none carried* through bulkheads, &c. *conduits*

How are cables carried through decks *conduits*

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

If so, how are they protected *in conduits*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *in midship cargo space shelter deck only*

If so, how are the lamp fittings and cable terminals specially protected *in water tight globes*

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 *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 *1* and with an amperemeter *2*, fixed *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

How are the lamps specially protected in places liable to the accumulation of vapour or gas *Watertight and vapour proof fittings*

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 *200* 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.

Jas R Preston Geo A Keller Co N.C. Electrical Engineers Date *2nd July 1920*

COMPASSES.

Distance between dynamo or electric motors and standard compass *125 feet*

Distance between dynamo or electric motors and steering compass *115 "*

The nearest cables to the compasses are as follows:—

A cable carrying *20* Amperes *25* feet from standard compass feet from steering compass

A cable carrying Amperes feet from standard compass feet from steering compass

A cable carrying Amperes feet from standard compass feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

Jas R Preston Geo A Keller Co N.C. Builder's Signature. Date *2nd July 1920*

GENERAL REMARKS.

This vessel has been fitted with an electric light installation as above, and the workmanship is good. On completion it was tried under full working conditions and found satisfactory.

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

Elec Lt.

Recd 3/8/20

Geo. Allan.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec Lt

New York JUL 13 1920



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