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## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 103

Port of *Wilmington* Date of First Survey *24 April 20* Date of Last Survey *17 July 1920* No. of Visits *12*  
 No. in on the Iron or Steel *D. D. Nemaha* Port belonging to *Wilmington, N.C.*  
 Reg. Book Built at *Wilmington, N.C.* By whom *George A. Fuller Co.* When built *1920*  
 Owners *U. S. Shipping Board E. I. Corp.* Owners' Address  
 Yard No. *1450* Electric Light Installation fitted by *George A. Fuller Co.* When fitted *1920*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*2* *Emberg D.C. Marine* Generating Sets. Consisting of *Emberg* Single Cycle Cylinder, double acting Engine and *Emberg* Generator on a common Base.

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

Where is Dynamo fixed *Starboard 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 sub-panels of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Forward deck house 8 circuit, Starboard Deck House 6 circuit and Poop 4 circuit.*

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 *4* lights each of *100 Watts* candle power requiring a total current of Amperes

B *208* lights each of *50* " candle power requiring a total current of Amperes

C *6* lights each of *15* " candle power requiring a total current of Amperes

D *5* lights each of *10* " candle power requiring a total current of Amperes

E lights each of candle power requiring a total current of Amperes

Mast head light with *2* lamps each of *16* candle power requiring a total current of Amperes

Side light with *2* lamps each of *16* candle power requiring a total current of Amperes

*7 x 4* Cargo lights of *50 Watts* candle power, whether incandescent or arc lights

If arc 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 *120* Amperes, comprised of *2* wires, each *0.0 B.S. W.G.* diameter, square inches total sectional area

Branch cables carrying *20* Amperes, comprised of *2* wires, each *4 B.S. S.W.G.* diameter, square inches total sectional area

Branch cables carrying *15* Amperes, comprised of *2* wires, each *6 B.S. S.W.G.* diameter, square inches total sectional area

Leads to lamps carrying *5* Amperes, comprised of *2* wires, each *14 B.S. S.W.G.* diameter, square inches total sectional area

Cargo light cables carrying *2* Amperes, comprised of *2* wires, each *14 B.S. S.W.G.* diameter, square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*All wires and cables rubber insulated and enclosed in iron conduits*

Joints in cables, how made, insulated, and protected *Soldered, wound with rubber and friction tape and shellac*

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 thus carried* through bulkheads, &c.  
 How are cables carried through decks *Conduit*  
 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 & belly 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 *Switch board.*

**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 *Water tight Vapourproof 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.

*George A. Fuller Co.*

*Corrado Corini Vice Pres*

Electrical Engineers

Date *Aug 2nd 1920*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *125'-0"*

Distance between dynamo or electric motors and steering compass *115'-0"*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>20</i>	<i>25</i>		
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.

*George A. Fuller Co.*

*Corrado Corini Vice Pres*

Builder's Signature.

Date *Aug. 2nd 1920*

**GENERAL REMARKS.**

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

It is submitted that

this vessel is eligible for

THE RECORD. *Elec Lt*

*Relt 19/10*

*Elec Lt*

*Geo. Allan*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

New York AUG 31 1920



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