

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4231

Port of Philadelphia Date of First Survey 11 Jan 1921 Date of Last Survey 15 Aug 1921 No. of Visits 41  
 No. in Reg. Book on the Iron or Steel NEW S.S. "AGWIHAVRE" Port belonging to New York  
 Built at Chester Pa By whom Sun Shipbuilding Co When built 1921  
 Owners Atlantic Gulf West Indies S. S. Lines Owners' Address New York  
 Yard No. 40 Electric Light Installation fitted by Sun Shipbuilding Co When fitted 1921

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two (2) G.C. compound wound continuous current Generators direct-connected to 2 G.C. reciprocating Engines  
 Capacity of Dynamo 144 Amperes at 115 Volts, whether continuous or alternating current Direct  
 Where is Dynamo fixed Platform aft in Engine-room Whether single or double wire system is used Double  
 Position of Main Switch Board Port side Dynamo-room having switches to groups Seven of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each one six circuit panel in Dynamo room one eight circuit panel in Engine room hatch one six circuit panel in Bridge Deck house. Junction boxes outside of Pump room  
 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 100 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 Yes  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

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

A Bridge House	52 lights each of	32	candle power requiring a total current of	20	Amperes
B After Quarters	54 lights each of	"	candle power requiring a total current of	20	Amperes
C Eng. Boiler room	62 lights each of	"	candle power requiring a total current of	22	Amperes
D Deck Forecastle	28 lights each of	"	candle power requiring a total current of	15	Amperes
E Pump room	16 lights each of	"	candle power requiring a total current of	7	Amperes
1 Mast head light with	2 lamps each of	40	candle power requiring a total current of	1	Amperes
2 Side light with	2 lamps each of	40	candle power requiring a total current of	2	Amperes
Six Cargo lights of	36.	32	candle power, whether incandescent or arc lights	Incandescent.	

If arc lights, what protection is provided against fire, sparks, &c. None used  
 Where are the switches controlling the masthead and side lights placed on Tell-Tale panel in Pilot House

### DESCRIPTION OF CABLES.

Main cable carrying 142 Amperes, comprised of 2 wires, each 000 S.W.G. diameter, 0.132 square inches total sectional area  
 Branch cables carrying 22 Amperes, comprised of 2 wires, each 30-000 CM S.W.G. diameter, 0.0260 square inches total sectional area  
 Branch cables carrying 20 Amperes, comprised of 2 wires, each 30-000 CM S.W.G. diameter 0.0260 square inches total sectional area  
 Leads to lamps carrying 4 Amperes, comprised of 2 wires, each 4000 CM S.W.G. diameter 0.00223 square inches total sectional area  
 Cargo light cables carrying 2 Amperes, comprised of 2 wires, each 1620 CM S.W.G. diameter 0.00128 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

All lead and armored cable used throughout ship. stuffing tubes going through bulkheads. Lead bushing used going through beams. water-tight fixtures used  
 Joints in cables, how made, insulated, and protected All joints made mechanically tight then soldered and wrapped with rubber and linen tapes

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 No  
 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 Shipped to deck and pans made tight for that purpose



**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 *Lead and armored cable used with water-tight fittings*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead & armored cable*

What special protection has been provided for the cables near boiler casing *Lead & armored cable*

What special protection has been provided for the cables in engine room *Lead & armored cable*

How are cables carried through beams *Lead bushings* through bulkheads, &c. *Lead bushings*

How are cables carried through decks *Lead & armored cable in conduit pipes*

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

If so, how are they protected *✓*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *✓*

If so, how are the lamp fittings and cable terminals specially protected *✓*

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 *Extension cord*

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 *Yes* and with an amperemeter *Yes*, fixed *tri 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 *No*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *Vapor proof fixtures*

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.

*Robert. Hall*

Electrical Engineers

Date *22-8-21*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *225 ft.*

Distance between dynamo or electric motors and steering compass *225 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>1/2</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>1/2</i>	<i>3</i>	<i>6</i>	<i>6</i>

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 *Nil* degrees on *all* course in the case of the standard compass and *Nil* degrees on *all* course in the case of the steering compass.

*Robert. Hall*

Builder's Signature.

Date *22-8-21*

**GENERAL REMARKS.**

*This installation has been well fitted on board and proved satisfactory under full trial*

*Elect Light  
Roll 22/9/21*

*J. Adamson*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *New York 306 3-9-1921*

*Elect light*



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