

Apr 19-1920

MON MAY 3 1920

Rpt. 13.

Received at London Office

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3767

Port of Philadelphia Date of First Survey Feb 3 1919 Date of Last Survey April 3 1920 No. of Visits 42
 No. in Reg. Book on the Iron or Steel S.S. ATLANTIC SUN Port belonging to Philadelphia
 Built at Chester By whom Sun Shipbuilding Co When built 1920
 Owners Sun Company Owners' Address Philadelphia
 Yard No. 20 Electric Light Installation fitted by Sun Shipbuilding Co When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two (2) G E Compound wound continuous current Generators direct connected to two (2) G E Vertical Engines

Capacity of Dynamo 136 Amperes at 115 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Aft Engine room platform Whether single or double wire system is used Double

Position of Main Switch Board Aft in Dynamo room having switches to groups Low of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one six circuit panel box in Bridge House one six circuit in Aft House. one six circuit in Dynamo room. Three water tight fused junctions in watertight box 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 State

Total number of lights provided for 220 arranged in the following groups:—

A	Bridge House	lights each of	48	lights	32	candle power requiring a total current of	15	Amperes
B	Aft House	lights each of	60	"	32	candle power requiring a total current of	18	Amperes
C	Engine & Fun room	lights each of	50	"	32	candle power requiring a total current of	15	Amperes
D	Pump room	lights each of	16	"	32	candle power requiring a total current of	5	Amperes
E	Deck Structure	lights each of	30	"	32	candle power requiring a total current of	9	Amperes
4	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	1	Amperes
36	Cargo lights of			16		candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed.

DESCRIPTION OF CABLES.

Main cable carrying	150	Amperes, comprised of	2	wires, each	000	S.W.G. diameter,	0.132	square inches total sectional area
Branch cables carrying	15	Amperes, comprised of	2	wires, each	8	S.W.G. diameter,	0.0130	square inches total sectional area
Branch cables carrying	47	Amperes, comprised of	2	wires, each	6	S.W.G. diameter,	0.0521	square inches total sectional area
Leads to lamps carrying	4	Amperes, comprised of	2	wires, each	14	S.W.G. diameter,	0.00323	square inches total sectional area
Cargo light cables carrying	3	Amperes, comprised of	2	wires, each	16	S.W.G. diameter,	0.00203	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wire used (except Fun room) is rubber covered double braided, all wire larger than #10 is stranded. Lead and armoured cable also used

Joints in cables, how made, insulated, and protected All joints are well made mechanically then soldered and wrapped with rubber friction tape

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 Lead Armoured cable and conduit made watertight



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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 *Run in lead armored cable and conduit and made watertight*

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 casings *In conduit with asbestos covered wire*

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

How are cables carried through beam *Lead armored cable & conduit* through bulkheads, &c. *Stuffing tubes*

How are cables carried through decks *Conduit. Lead armored cable*

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 *Watertight stuffing tubes & watertight fixtures*

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

If so, how are the lamp fittings and cable terminals specially protected *Watertight fixtures packed & white leaded*

Where are the main switches and fuses for these lights fitted *In Sidley hatch in watertight boxes*

If in the spaces, how are they specially protected *None*

Are any switches or fuses fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *Cargo Clusters*

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 *Switche 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 *No*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *Screw flange and rubber gasket.*

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 H. Aug
SUN SHIPBUILDING COMPANY

Electrical Engineers

Date *7-4-20*

COMPASSES.

Distance between dynamo or electric motors and standard compass *250'*

Distance between dynamo or electric motors and steering compass *250'*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>35</i>	<i>10</i>	<i>4</i>	
<i>2</i>	<i>5</i>	<i>5</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 H. Aug

Builder's Signature.

Date *7-4-20*

GENERAL REMARKS.

This installation has been well fitted aboard and proved satisfactory under trial

It is submitted that this vessel is eligible for THE RECORD. ELEC: LIGHT. *NYC 7/5/20*

J. Adamson

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. L.

New York APR 20 1920



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