

RECORDED NEW YORK APR -5 1921

WED. 27 APR. 1921

Rpt. 13.

S.S. SOLANA.

Received at London Office

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4142

Port of Philadelphia Date of First Survey Feb 4 Date of Last Survey Mar 13 No. of Visits 1  
 No. in Reg. Book on the Steel S.S. Solana Port belonging to San Francisco  
 Built at Camden, N.J. By whom New York Shipbuilding Co. When built 1921  
 Owners Pacific Mail Steamship Co. Owners' Address San Francisco  
 Yard No. 259 Electric Light Installation fitted by New York Shipbuilding Co. When fitted 1921

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two (2) 10 K.W. 110 Volt, Generators, Direct Connected to Vertical Marine Engines Built by the General Electric Co, Schenectady, N.Y. U.S.A.

Capacity of Dynamo 90.9 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Lower Eng. Rm. Stbd Whether single or double wire system is used Double

Position of Main Switch Board Lower Eng. Rm. Stbd having switches to groups nine of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each "A" Upper DK. Passage aft (6) "A1" Petty officers mess Rm. (4) "B" Upper DK. outside pump Rm. (16) "B1" BR. DK. Passage (4) "C" Upper DK. FORD (8) "C1" Lower Eng. Rm. "D" Upper Eng. Rm. "D1" Fire Rm. "E" Rm. Lt. "E1" Search Lt.

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 10% 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

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

Total number of lights provided for 278 arranged in the following groups:—

<u>A59</u>	lights each of <u>57-25W. 1-32C.P. 1-16C.P.</u>	candle power requiring a total current of <u>14.6</u>	Amperes
<u>A1 22</u>	<u>20-25W. 2-5C.P.</u>	candle power requiring a total current of <u>4.9</u>	Amperes
<u>B 18</u>	lights each of <u>17-25W. 1-16C.P.</u>	candle power requiring a total current of <u>4.4</u>	Amperes
<u>B1 55</u>	<u>44-25W. 5-5C.P. 6-16C.P.</u>	candle power requiring a total current of <u>14.2</u>	Amperes
<u>C 25</u>	lights each of <u>20-25W. 4-16C.P. 1-32</u>	candle power requiring a total current of <u>7.8</u>	Amperes
<u>C1 14</u>	<u>12-25W. 2-16C.P.</u>	candle power requiring a total current of <u>3.8</u>	Amperes
<u>D 24</u>	lights each of <u>22-25W. 2-16C.P.</u>	candle power requiring a total current of <u>6.1</u>	Amperes
<u>D1 22</u>	<u>19-25W. 3-16C.P.</u>	candle power requiring a total current of <u>5.9</u>	Amperes
<u>E 6</u>	lights each of <u>32 C.P.</u>	candle power requiring a total current of <u>6.5</u>	Amperes
<u>E1 Searchlight</u>		<u>35.</u>	
<u>3 Mast head light with</u>	<u>2 lamps each of 32</u>	candle power requiring a total current of <u>3.3</u>	Amperes
<u>2 Side light with</u>	<u>2 lamps each of 32</u>	candle power requiring a total current of <u>2.2</u>	Amperes

15-107118 Cargo lights of 2-300W + 6 of 6/16C.P. candle power, whether incandescent or arc lights INCANDESCENT

If arc lights, what protection is provided against fire, sparks, &c. no arc lamps

Where are the switches controlling the masthead and side lights placed Self Tole Panel

## DESCRIPTION OF CABLES.

Main cable carrying <u>90.9</u> Amperes, comprised of <u>6 1/8</u> wires, each <u>.040</u>	<u>B+S</u> S.W.G. diameter, <u>.0763</u> square inches total sectional area
Branch cables carrying <u>35.0</u> Amperes, comprised of <u>37 1/8</u> wires, each <u>.040</u>	<u>B+S</u> S.W.G. diameter, <u>.0481</u> square inches total sectional area
Branch cables carrying <u>22.5</u> Amperes, comprised of <u>7 1/5</u> wires, each <u>.057</u>	<u>B+S</u> S.W.G. diameter, <u>.0182</u> square inches total sectional area
Leads to lamps carrying <u>.5</u> Amperes, comprised of <u>7 1/22</u> wires, each <u>.025</u>	<u>B+S</u> S.W.G. diameter, <u>.0035</u> square inches total sectional area
Cargo light cables carrying <u>3.3</u> Amperes, comprised of <u>7 1/22</u> wires, each <u>.025</u>	<u>B+S</u> S.W.G. diameter, <u>.0035</u> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

head + Armored Cable throughout

Joints in cables, how made, insulated, and protected Good mechanical joints with approved connector blocks, in water-tight Boxes Painted with Insulating compound.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances ✓ 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 head + Armored cable



© 2021

Lloyd's Register Foundation

004358-004363-0149



**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 + Armored cable

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

Lead + Armored cable

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

Lead and armored cable

How are cables carried through beams

Lead bushings

through bulkheads, &c.

stuffing tubes

How are cables carried through decks

in 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

Lead + armored cable

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

no

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

✓

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 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

✓

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 lamps

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.

As Parker

Electrical Engineers

Date 31-March-21

**COMPASSES.**

Distance between dynamo or electric motors and standard compass

approx 250 ft.

Distance between dynamo or electric motors and steering compass

approx 240 ft.

The nearest cables to the compasses are as follows:—

A cable carrying

.5

Amperes

3

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

yes

The maximum deviation due to electric currents, etc., was found to be

no

degrees on

all

course in the case of the

standard compass and

no

degrees on

all

course in the case of the steering compass.

H. Magoun

Builder's Signature.

Date

31-March-21.

**GENERAL REMARKS**

This installation is well fitted & in accordance with the Rules & ran satisfactorily on trial under full load

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

William Butler

Surveyor to Lloyd's Register of Shipping.

\$ 145.00

Committee's Minute

Elect

New York APR 12 1921



© 2021

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN