

Rpt. 13.

S.S. SOLANA.

Received at London Office

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4142

Port of Philadelphia Date of First Survey Feb 11 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
"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>3 Mast head light with 2 lamps each of 32</u>		candle power requiring a total current of <u>3.3</u>	Amperes
<u>2 Side light with 2 lamps each of 32</u>		candle power requiring a total current of <u>2.2</u>	Amperes

15-157118 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 Dale Panel

DESCRIPTION OF CABLES.

Main cable carrying <u>90.9</u> Amperes, comprised of <u>6/18</u> wires, each <u>.040</u>	<u>B+S</u> S.W.G. diameter, <u>.0763</u> square inches total sectional area	<u>.0763</u> ✓
Branch cables carrying <u>35.0</u> Amperes, comprised of <u>37/18</u> wires, each <u>.040</u>	<u>B+S</u> S.W.G. diameter, <u>.0481</u> square inches total sectional area	<u>.0463</u> ✓
Branch cables carrying <u>22.5</u> Amperes, comprised of <u>7/15</u> wires, each <u>.057</u>	<u>B+S</u> S.W.G. diameter, <u>.0182</u> square inches total sectional area	<u>.0178</u> ✓
Leads to lamps carrying <u>.5</u> Amperes, comprised of <u>7/22</u> wires, each <u>.025</u>	<u>B+S</u> S.W.G. diameter, <u>.0035</u> square inches total sectional area	<u>.00344</u> ✓
Cargo light cables carrying <u>3.3</u> Amperes, comprised of <u>7/22</u> wires, each <u>.025</u>	<u>B+S</u> S.W.G. diameter, <u>.0035</u> square inches total sectional area	<u>.00344</u> ✓

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead + 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 Lead + Armored cable



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.

A. 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	<u>.5</u>	Ampere	<u>3</u>	feet from standard compass	<u>✓</u>	feet from steering compass
A cable carrying	<u>✓</u>	Ampere	<u>✓</u>	feet from standard compass	<u>✓</u>	feet from steering compass
A cable carrying	<u>✓</u>	Ampere	<u>✓</u>	feet from standard compass	<u>✓</u>	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.

\$ 145.00

Elect

William Butler

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

New York APR 12 1921



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.