

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2641

Port of San Francisco Date of First Survey Oct 30th/17 Date of Last Survey Jan 10th/18 No. of Visits 5
 No. in on the ~~Iron~~ Steel 5 J. E. O'NEIL Port belonging to Philadelphia Pa
 Reg. Book Built at Alameda Cal. By whom Bethlehem S. B. Corp U.P. When built 1918
 Owners Atlantic Refining Co Owners' Address Philadelphia
 Yard No. 143 Electric Light Installation fitted by Bethlehem S. B. Corp U.P. When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-20-K.W. General Electric Co. Direct connected to Reciprocating Engines
 Capacity of Dynamo 180 Amperes at 125 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Engine room Whether single or double wire system is used double
 Position of Main Switch Board Near Dynamos having switches to groups 4 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each FORECASTLE (6) MIDSHIP (12)
AFTER QUARTERS (12) ENGINE ROOM (6)

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

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 275 arranged in the following groups:—

A	<u>38</u>	lights each of	<u>25</u>	candle power requiring a total current of	<u>9 1/2</u>	Amperes
B	<u>72</u>	lights each of	<u>25</u>	candle power requiring a total current of	<u>18</u>	Amperes
C	<u>107</u>	lights each of	<u>25</u>	candle power requiring a total current of	<u>26 3/4</u>	Amperes
D	<u>58</u>	lights each of	<u>25</u>	candle power requiring a total current of	<u>14 1/2</u>	Amperes
E	<u>1 SEARCHLIGHT</u>	lights each of		candle power requiring a total current of	<u>30</u>	Amperes
	<u>1</u>	Mast head light with	<u>2</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>1</u> Amperes
	<u>2</u>	Side light with	<u>2</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>2</u> Amperes
	<u>3</u>	Cargo lights of	<u>125</u>	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 PILOT HOUSE

DESCRIPTION OF CABLES.

Main cable carrying	<u>180</u>	Amperes, comprised of	<u>19</u>	wires, each	S.W.G. diameter,	<u>.211</u>	square inches total sectional area
Branch cables carrying	<u>26 3/4</u>	Amperes, comprised of	<u>19</u>	wires, each	S.W.G. diameter,	<u>.041</u>	square inches total sectional area
Branch cables carrying	<u>18</u>	Amperes, comprised of	<u>19</u>	wires, each	S.W.G. diameter,	<u>.041</u>	square inches total sectional area
Leads to lamps carrying	<u>1/2</u>	Amperes, comprised of	<u>1</u>	wires, each	S.W.G. diameter,	<u>.0042</u>	square inches total sectional area
Cargo light cables carrying	<u>1/4</u>	Amperes, comprised of	<u>28</u>	wires, each	S.W.G. diameter,	<u>.0042</u>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wiring rubber covered, double braid

Joints in cables, how made, insulated, and protected Soldered. Rubber & Traction Tape and painted

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 CONDUIT



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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 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 CONDUIT through bulkheads, &c. CONDUIT

How are cables carried through decks CONDUIT

Are any cables run through coal bunkers YES or cargo spaces YES or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected CONDUIT

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 WITH GLOBES & BRASS GUARDS & CAST IRON JUNCTION BOXES

Where are the main switches and fuses for these lights fitted FORECASTLE

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 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 NO

How are the lamps specially protected in places liable to the accumulation of vapour or gas VAPOUR PROOF GLOBES & GUARDS

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.

COMPASSES.

Distance between dynamo or electric motors and standard compass 20 FEET

Distance between dynamo or electric motors and steering compass 20 FEET

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>1/2</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>1/2</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>30</u>	<u>3</u>	<u>3</u>	<u>3</u>

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 EVERY course in the case of the standard compass and NIL degrees on EVERY course in the case of the steering compass.

BETHLEHEM ENGINEERING CORPORATION, LIMITED Builder's Signature. Date

GENERAL REMARKS. This installation has been fitted in accordance with Rule Requirements, tested under working conditions and found in order, and the vessel is eligible in opinion to have notation of "ELECTRIC LIGHT," in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. 26/2/18

Committee's Minute Elec. Light

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.