

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2426.

Port of SAN FRANCISCO, Date of First Survey Oct. 12th, Date of Last Survey Dec. 19th No. of Visits 4  
 No. in on the ~~Iron or Steel~~ s/s "H.C. FOLGER", Port belonging to Philadelphia, Pa.  
 Built at San Francisco, By whom Union Iron Works Co. When built 1916.  
 Owners Atlantic Gulf Refining Co. Owners' Address Philadelphia, Pa/  
 Yard No. 129 Electric Light Installation fitted by UNION IRON WORKS COMPANY. When fitted 1916.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-20 k.w. General Electric Co., Generators direct connected to reciprocating engines

Capacity of Dynamo each 180 Amperes at 110 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 12 & motors of lights/ &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Forecastle, 6-switches. Midship, 8-switches.  
After quarters, 10 switches. Engine room, 6-switches.

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 270 arranged in the following groups:—

A	36	lights each of	25	candle power requiring a total current of	9	Amperes
B	70	lights each of	25	candle power requiring a total current of	17½	Amperes
C	100	lights each of	25	candle power requiring a total current of	25	Amperes
D	64	lights each of	25	candle power requiring a total current of	16	Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	Mast head light with	2 lamps each of	25	candle power requiring a total current of	1/2	Amperes
2	Side light with	2 lamps each of	25	candle power requiring a total current of	1	Amperes
5	Cargo lights of		125	candle power, whether incandescent or arc lights	incandescent.	

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 180 Amperes, comprised of 19 wires, each S.W.G. diameter, .211 square inches total sectional area ✓  
 Branch cables carrying 17½ Amperes, comprised of 7 wires, each S.W.G. diameter, .041 square inches total sectional area ✓  
 Branch cables carrying 25 Amperes, comprised of 7 wires, each S.W.G. diameter, .026 square inches total sectional area ✓  
 Leads to lamps carrying ¼ Amperes, comprised of 1 wires, each 15 S.W.G. diameter, .0041 square inches total sectional area ✓  
 Cargo light cables carrying 1½ Amperes, comprised of 28 wires, each S.W.G. diameter, .0041 square inches total sectional area ✓

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wiring rubber covered double braid in conduit.

Joints in cables, how made, insulated, and protected Soldered, rubber and friction taped and painted. All joints made in cast iron junction boxes.

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 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 no 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 Brass guards

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 2-ammeters, fixed 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 vapour proof globes

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.

UNION IRON WORKS COMPANY,

By Geo. J. Ames  
Engineer-in-Chief

Electrical Engineers

Date Dec. 29th 1916.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass Twenty-five feet

Distance between dynamo or electric motors and steering compass " " "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>20</u>	Amperes	<u>10</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>1/4</u>	Amperes	<u>1</u>	feet from standard compass	<u>1</u>	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 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.

UNION IRON WORKS CO.,

By Geo. J. Ames  
Engineer-in-Chief.

Builder's Signature.

Date 29th December, 1916.

**GENERAL REMARKS.** This installation has been fitted in accordance with the Rules, tested under working conditions and found in order, and the vessel is eligible in our opinion to have the record of ELECTRIC LIGHT in the Register Book.

*It is submitted that this vessel is eligible for THE RECORD. Elec. light.*

*JWD 31/1/17.*

*Elec. Light*

J. Blackett  
Surveyor to Lloyd's Register of British and Foreign Shipping.

New York JAN 11 1917

Committee's Minute



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