

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2429

Port of Philadelphia Date of First Survey 7<sup>th</sup> July 1916 Date of Last Survey 14 Aug 1916 No. of Visits 8  
 No. in Reg. Book on the Iron or Steel S.S. "J. M. Danziger" Port belonging to Los Angeles  
 Built at Philadelphia, Pa. By whom W. E. Cramp & Co. for R. B. C. When built 1916  
 Owners Petroleum Transport Co Owners' Address Los Angeles  
 Yard No. 428 Electric Light Installation fitted by W. E. Cramp & Co. for R. B. C. When fitted 1916

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-10-K.W.; 110 Volt Turbo Generating sets consisting of a Type "Z" Terry Turbine, direct connected to a General Elect. Co. Generator.  
 Capacity of Dynamo 90 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 Engine Room having switches to groups 7 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1-4 branch panel located on Bridge Deck  
Tr. 19; 1-4 branch panel located on upper deck frame 46 and  
1-4 branch panel located in Engine 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 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  
 Total number of lights provided for 241 arranged in the following groups:—  
 A 7 lights each of 2 candle power requiring a total current of .44 Amperes  
 B 12 lights each of 40 <sup>Watts</sup> candle power requiring a total current of 4.30 Amperes  
 C 222 lights each of 25 <sup>Watts</sup> candle power requiring a total current of 50.4 Amperes  
 D lights each of candle power requiring a total current of Amperes  
 E lights each of candle power requiring a total current of Amperes  
1 Mast head light with 2 lamps each of 40 candle power requiring a total current of .36 Amperes  
2 Side light with 2 lamps each of 40 candle power requiring a total current of .72 Amperes  
6 Cargo lights of 500 <sup>Watts</sup> candle power, whether incandescent or arc lights Incandescent  
 If arc lights, what protection is provided against fire, sparks, &c. No arc lamps installed.

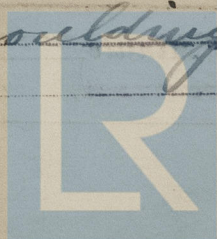
Where are the switches controlling the masthead and side lights placed

## DESCRIPTION OF CABLES.

Main cable carrying 90 Amperes, comprised of 19 wires, each 12 <sup>B&S</sup> S.W.G. diameter, .0974 square inches total sectional area  
 Branch cables carrying 59 Amperes, comprised of 7 wires, each 12 <sup>B&S</sup> S.W.G. diameter, .03574 square inches total sectional area  
 Branch cables carrying 9 Amperes, comprised of 1 wires, each 12 <sup>B&S</sup> S.W.G. diameter, .0051 square inches total sectional area  
 Leads to lamps carrying .54 Amperes, comprised of 1 wires, each 14 <sup>B&S</sup> S.W.G. diameter, .0032 square inches total sectional area  
 Cargo light cables carrying 2.2 Amperes, comprised of 1 wires, each 14 <sup>B&S</sup> S.W.G. diameter, .0032 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Set to the conductor (a) a layer of vulcanized rubber compound; (b) a layer of cotton braid; (c) a weatherproof preservative compound. Two such conductors are laid flat and covered with a weatherproof braid.  
 Joints in cables, how made, insulated, and protected Joints are spliced, soldered, covered with a layer of rubber compound and a layer of tape. Connections in general are made in junction boxes or shouldering.  
 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 Conduit and moulding





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 travelled close to these sources

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 In conduit through bulkheads, &c. In conduit

How are cables carried through decks In conduit

Are any cables run through coal bunkers yes or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected conduit and kept well up to decks

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

If so, how are the lamp fittings and cable terminals specially protected Heavy guard

Where are the main switches and fuses for these lights fitted In Engine Room

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 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 Steam light 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 650 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.

G. Surce Electrical Engineers

Date 8-2-16

COMPASSES.

Distance between dynamo or electric motors and standard compass 22 feet

Distance between dynamo or electric motors and steering compass 17 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>.06</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>.36</u>	<u>8</u>	<u>14</u>	<u>14</u>
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

The maximum deviation due to electric currents, etc., was found to be \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass and \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the steering compass.

Wm. Leary & Sons Ship & Engine Builders Builder's Signature. Date August 3/16

GENERAL REMARKS.

The installation has been well fitted, and proved satisfactory on trial

this vessel is eligible for THE RECORD Elec. light

A. T. Thomas  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute Elec Light New York SEP 21 1916

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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