

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1175

Port of PHILADELPHIA Date of First Survey 13-4-03 Date of Last Survey May 18-03 No. of Visits 8
 No. in 2001 on the Iron Steel S.S. LIGONIER Port belonging to Port Arthur Texas
 Reg. Book 1 Built at Camden N.J. By whom New York SBC When built 1903-5
 Owners J. M. Cuffey Petroleum Co Owners' Address Pittsburg, Pa.
 Yard No. 9 Electric Light Installation fitted by New York SBC When fitted 1903-5

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 no 5'x5' Vertical Engine type Engine running at 450 R.P.M.
direct connected to 110 V. D.C. Dynamo
 Capacity of Dynamo 400 Amperes at 110 Volts, whether continuous or alternating current Direct
 Where is Dynamo fixed On Engine floor - port side
 Position of Main Switch Board at head of dynamo having switches to groups Five of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each A. Amidship house - five circuits
B. Engine Hatch four circuits C. Fire Room D. Engine Room port
E. Engine Room Stbd.
 If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 92 arranged in the following groups:
 A Forty one lights each of 16 candle power requiring a total current of 20.5 Amperes
 B Twenty five lights each of " candle power requiring a total current of 12.5 Amperes
 C Ten lights each of " candle power requiring a total current of 5 Amperes
 D Eight lights each of " candle power requiring a total current of 4 Amperes
 E Eight lights each of " candle power requiring a total current of 4 Amperes
3 Mast head light with 3 lamps each of " candle power requiring a total current of 1.5 Amperes
2 Side light with 2 lamps each of " candle power requiring a total current of 1 Amperes
5 Cargo lights of " candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. none fitted

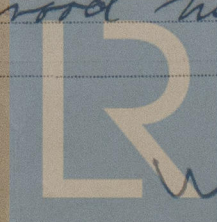
Where are the switches controlling the masthead and side lights placed wheel house

DESCRIPTION OF CABLES.

Main cable carrying 46 Amperes, comprised of 37 wires, each 18 B+S L.S.G. diameter, 0.0481 square inches total sectional area
 Branch cables carrying 12.5 Amperes, comprised of 7 wires, each 16 B+S L.S.G. diameter, 0.0140 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 19 wires, each 18 B+S L.S.G. diameter, 0.0247 square inches total sectional area
 Leads to lamps carrying 1/2 Amperes, comprised of 1 wires, each 14 B+S L.S.G. diameter, 0.0032 square inches total sectional area
 Cargo light cables carrying 2 Amperes, comprised of 2 wires, each 14 B+S L.S.G. diameter, 0.0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with 3/32 rubber - 1/32 waterproof + flameproof lead
+ in pipe work with second covering of 1/32 braid
Protected by wood moulding or by iron pipe
 Joints in cables, how made, insulated, and protected Joints made electrically + mechanically perfect with
solder, then soldered, then covered with pipe rubber, then with strong
tape, then painted with waterproof insulating paint
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 Iron pipe + wood 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 *iron pipe + watertight fixtures*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *iron pipe*

What special protection has been provided for the cables near boiler casings

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

How are cables carried through beams *iron pipe* through bulkheads, *none*

How are cables carried through decks

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 *iron pipe*

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 cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *iron wire system*

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

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas *yes*

Are any switches, cut outs, 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 *By vapour tight globe fittings*

The installation is *now* supplied with a voltmeter and *2 amperemeters fixed on switchboard*

The copper used is guaranteed to have a conductivity of *98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile after 24 hours' immersion in seawater.

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.

L. C. Richards for N. Y. Shipbuilding Co. Electrical Engineers

Date *May 22 1903*

COMPASSES.

Distance between dynamo or electric motors and standard compass *15-0'*

Distance between dynamo or electric motors and steering compass *15-0'*

The nearest cables to the compasses are as follows:—

| Cable | Amperes | Feet from standard compass | Feet from steering compass |
|-----------------------------|-----------|----------------------------|----------------------------|
| A cable carrying <i>2.5</i> | <i>8</i> | <i>10</i> | |
| A cable carrying <i>1/2</i> | <i>10</i> | <i>2</i> | |
| A cable carrying <i>-</i> | <i>-</i> | <i>-</i> | |

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 *nothing* degrees on *-* course in the case of the standard compass and *nothing* degrees on *-* course in the case of the steering compass.

New York Shipbuilding Co. by Henry MacBuilder's Signature. Date *May 23^d 1903*

GENERAL REMARKS.

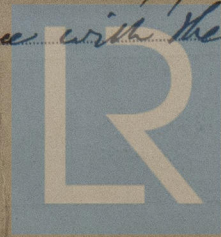
This installation has been fitted in accordance with the Rules of Lloyd's Register.

Robert Craig.

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules



May 24 1903
Lloyd's Register of British and Foreign Shipping

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.