

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 43

Port of Setroit Mich Date of First Survey \_\_\_\_\_ Date of Last Survey \_\_\_\_\_ No. of Visits \_\_\_\_\_  
 No. in on the ~~\_\_\_\_\_~~ Steel Steamer "Horace S. Wilkinson" Port belonging to Swego  
 Reg. Book \_\_\_\_\_ Built at Toledo Ohio By whom Toledo S. B. Co When built 1917  
 Owners St. Lakes Steamship Co Owners' Address \_\_\_\_\_  
 Yard No. 137 Electric Light Installation fitted by Toledo S. B. Co When fitted 1917

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 15 K.W. and one 7 1/2 K.W. General Electric Co's Generators. Compound 6 + 4 pole, direct connected to 8' x 6" + 5' x 4" enclosed vertical type engines.

Capacity of Dynamo 130 + 65 Amperes at 115 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 26 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each None

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 30 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 294 arranged in the following groups:—  
 A Fore Cabin 54 lights each of 30 candle power requiring a total current of 14 Amperes  
 B aft 75 lights each of 45 candle power requiring a total current of 20 Amperes  
 C St B Space 64 lights each of 45 candle power requiring a total current of 17 Amperes  
 D Cargo Hold 70 lights each of 100 candle power requiring a total current of 53 Amperes  
 E Deck 54 lights each of 50 of 100 & 22 of 40 candle power requiring a total current of 13 Amperes  
2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1 Amperes  
2 Side light with 1 lamps each of 32 candle power requiring a total current of 1 Amperes  
70 Cargo lights of 100 candle power, whether incandescent or arc lights incandescent  
 If arc lights, what protection is provided against fire, sparks, &c. None

Where are the switches controlling the masthead and side lights placed in Pilot house

### DESCRIPTION OF CABLES.

| Description                 | Amperes | Wires | Each  | Wires | Diameter | Square inches | Total sectional area |
|-----------------------------|---------|-------|-------|-------|----------|---------------|----------------------|
| Main cable carrying         | 105     | 3     | 1/8"  | 4     | 21600    | 124848        | 108225               |
| Branch cables carrying      | 14      | 2     | 1/16" | 1     | 83694    | 167042        | 4456                 |
| Branch cables carrying      | 20      | 2     | 1/16" | 1     | 83694    | 167042        | 6748                 |
| Leads to lamps carrying     | 10      | 2     | 1/16" | 14    | 4107     | 8192          | 3183                 |
| Cargo light cables carrying | 12      | 2     | 1/16" | 4     | 41742    | 83232         | 3815                 |

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables—Vulcanized rubber, braided with friction tape in wooden mouldings elsewhere vulcanized rubber, braided with friction tape, coated with P.T.S. Compound + run through steel conduits  
 Joints in cables, how made, insulated, and protected Soldered, taped with vulcanized rubber, friction tape + painted with P.T.S. Compound.

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 in steel conduits except in Cabins where wooden mouldings are used.



**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 Steel Conduits

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Steel Conduits

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

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

How are cables carried through beams Steel Conduits through bulkheads, &c. Steel Conduits w.T.

How are cables carried through decks — " — water tight

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

If so, how are they protected Steel Conduits

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

If so, how are the lamp fittings and cable terminals specially protected Cast iron boxes, with metal shades.

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 Permanent How fixed Bolted to hopper sides

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 Main 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 ✓

Are any switches, fuses, or joints of cables fitted in the pump room or companion ✓

How are the lamps specially protected in places liable to the accumulation of vapour or gas ✓

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.

[Signature] Electrical Engineers Date \_\_\_\_\_  
Vice Pres. & Genl. Mgr.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 550 feet

Distance between dynamo or electric motors and steering compass 540 —

The nearest cables to the compasses are as follows:—

|                  |           |         |          |                            |          |                            |
|------------------|-----------|---------|----------|----------------------------|----------|----------------------------|
| A cable carrying | <u>25</u> | Amperes | <u>8</u> | feet from standard compass | <u>6</u> | feet from steering compass |
| A cable carrying | <u>25</u> | Amperes | <u>8</u> | feet from standard compass | <u>6</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

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.

[Signature] Builder's Signature. Date \_\_\_\_\_  
Vice Pres. & Genl. Mgr.

**GENERAL REMARKS.**

This installation has been fitted in accordance with the Rules and in a satisfactory manner. The materials & workmanship are sound and good. It has been tried under working conditions and found satisfactory.

It is submitted that this vessel is eligible to:

THE RECORD. Elec. light: J.W.D.  
18/8/19  
Elec light

[Signature]  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.