

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 166

Port of Cleveland, O. Date of First Survey 8 June 18 Date of Last Survey 27 June 18 No. of Visits 4

No. in Reg. Book on the Iron or Steel S.S. LAKE CHARLOTTE Port belonging to Ashtabula
Built at Ashtabula, O. By whom The G.T. Lakes Eng. Works When built 1915.6

Owners U.S. Shipping Board Emergency Fleet Corp. Owners' Address Washington
Yard No. 186 Electric Light Installation fitted by The G.T. Lakes Eng. Works When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Six Pole Dynamo direct connected to Reciprocating Engine at 450 R.P.M.

Capacity of Dynamo 80 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 Engine Room having switches to groups _____ of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Midship Accom: One - 6 Circuit
Aft Accom: One - 4 Circuits, Fore: One - 2 Circuits

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 No

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 25 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 Standard

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 174 arranged in the following groups :-

A	Midship Accom: lights each of	<u>46</u>	<u>6 - 30 Wath</u>	candle power requiring a total current of	<u>9.4</u>	Amperes
B	Aft " lights each of	<u>16</u>	<u>25 Wath</u>	candle power requiring a total current of	<u>3.2</u>	Amperes
C	Forward Open lights each of	<u>8</u>	<u>25</u>	candle power requiring a total current of	<u>1.7</u>	Amperes
D	Deck lights each of	<u>22</u>	<u>60</u>	candle power requiring a total current of	<u>10.7</u>	Amperes
E	Fore & Aft Open lights each of	<u>46</u>	<u>44 - 60 Wath</u>	candle power requiring a total current of	<u>21.6</u>	Amperes
	2 Mast head light with 1 lamps each of	<u>100 Wath</u>	<u>Centra.</u>	candle power requiring a total current of	<u>1.6</u>	Amperes
	2 Side light with 1 lamps each of	<u>100</u>	<u>Centra.</u>	candle power requiring a total current of	<u>1.6</u>	Amperes

8 Cluster Cargo lights of 4 - 25 Wath lamp candle power, whether incandescent or arc lights Incandescent

If arc lights, what protection is provided against fire, sparks, &c. None used for Cargo. One 35 Amp. Search Light fitted, on independent Circuit. Wireless fitted with.

Where are the switches controlling the masthead and side lights placed Pilot House.

DESCRIPTION OF CABLES.

Main cable carrying	<u>150</u> Amperes, comprised of	<u>19</u> wires, each	<u>12</u>	<u>35.</u> S.W.G. diameter,	<u>133079</u> square inches total sectional area
Branch cables carrying	<u>70</u> Amperes, comprised of	<u>7</u> wires, each	<u>12</u>	S.W.G. diameter,	<u>4743</u> square inches total sectional area
Branch cables carrying	<u>50</u> Amperes, comprised of	<u>7</u> wires, each	<u>14</u>	S.W.G. diameter,	<u>26250</u> square inches total sectional area
Leads to lamps carrying	<u>15</u> Amperes, comprised of	<u>1</u> wires, each	<u>14</u>	S.W.G. diameter,	<u>4107</u> square inches total sectional area
Cargo light cables carrying	<u>13</u> Amperes, comprised of	<u>37</u> wires, each	<u>30</u>	S.W.G. diameter,	<u>37158</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

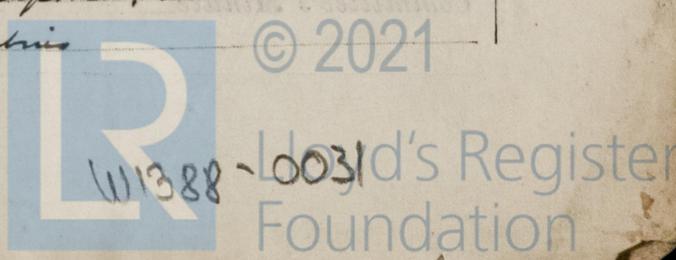
Standard Rubber covered, double braided, to specifications and tests of National Board of Fire Underwriters.

Joints in cables, how made, insulated, and protected Soldered, rubbered and Taped.

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 Steel Conduit where imposed, armored or in wood moldings in Cabins



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 Casings*

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

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

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

How are cables carried through beams *Steel Casings* through bulkheads, &c. *W. T. fittings* ✓

How are cables carried through decks *W. T. fittings* ✓

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

If so, how are they protected *Steel Casings clipped to deck beams. Casings fitted when needed.*

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 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 *Portable* How fixed *Plug boxes*

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 *Engine Room*

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.

Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *About 50 ft*

Distance between dynamo or electric motors and steering compass *ditto*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>25</i> Amperes	<i>5</i> feet from standard compass	<i>5</i> feet from steering compass
A cable carrying	Amperes	feet from standard compass	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 *but yet adjusted*

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.

Great Lakes Engineering Works J.H. Folk Builder's Signature. Date

GENERAL REMARKS.

The above installation has been fitted in a satisfactory manner. The materials and workmanship employed, as far as can be seen, are sound and good.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. JWD 7/8/18.

W. Lane Surveyor to Lloyd's Register of Shipping.

Committee's Minute *Elec. Lt* New York JUL - 9 1918

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



50,118.—Transfer.