

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 51

Port of Toronto Date of First Survey 2nd April/18 Date of Last Survey 15th June/18 No. of Visits 19
 No. in Reg. Book on the Iron or Steel S.S. TROJA Port belonging to Midland
 Built at Toronto By whom Thor Iron Works When built 1918
 Owners Great Lakes Transportation Co Owners' Address Midland
 Yard No. 5 Electric Light Installation fitted by Thor Iron Works When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single engine direct coupled to A.B.C. Canadian Giroux direct current generator
 Capacity of Dynamo 62 Amperes at 115 Volts, whether continuous or alternating current yes
 Where is Dynamo fixed Raised platform S.S. engine room Whether single or double wire system is used yes
 Position of Main Switch Board Close to dynamo having switches to groups yes of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One aux board port side engine room 6 switches. One aux board starboard side engine room. One aux board poop 5 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 yes
 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 No wire fuse
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes
 Total number of lights provided for 166 arranged in the following groups :-

A Aux board Eng port side 30 lights each of	16	candle power requiring a total current of	12	Amperes
a " " " Starboard 29 " " "	16		12	"
B " " Poop 20 lights each of	16	candle power requiring a total current of	4	Amperes
d 5 switches Eng. Top. Port cabin forward 54	16		30	"
C Boiler room 9 lights each of	16	candle power requiring a total current of	4	Amperes
c signal lights 8	16		4	"
D Wireless lights each of	16	candle power requiring a total current of	10	Amperes
d Forward cargo cluster 20	16		3	"
E aft " " 20 lights each of	16	candle power requiring a total current of	2	Amperes
c Forecastle 6	16		2	"
2 Mast head light with 1 lamps each of	16	candle power requiring a total current of	2	Amperes
2 Side light with 2 lamps each of	16	candle power requiring a total current of	2	Amperes
4 Five light clusters Cargo lights of	16	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. No arc lights

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

DESCRIPTION OF CABLES.

Main cable carrying <u>75</u> Amperes, comprised of <u>19</u> wires, each # <u>13</u>	B + S S.W.G. diameter, <u>52630</u>	<u>1077</u> wire mill square inches total sectional area
Branch cables carrying <u>10</u> Amperes, comprised of <u>16</u> wires, each # <u>16</u>	B + S S.W.G. diameter, <u>10350</u>	<u>10724</u> wire mill square inches total sectional area
Branch cables carrying <u>6</u> Amperes, comprised of <u>1</u> wires, each # <u>14</u>	B + S S.W.G. diameter, <u>4107</u>	<u>10032</u> wire mill square inches total sectional area
Leads to lamps carrying <u>2</u> Amperes, comprised of <u>1</u> wires, each # <u>14</u>	B + S S.W.G. diameter, <u>4107</u>	wire mill square inches total sectional area
Cargo light cables carrying <u>Amperes</u> , comprised of <u>wires</u> , each # <u>14</u>	S.W.G. diameter, <u>4107</u>	wire mill square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables rubber covered, cotton braided, protected in galvanized iron conduit. Fuse blocks mounted on asbestos base

Joints in cables, how made, insulated, and protected Splined then soldered, insulated with rubber & tape, protected with metal box

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 pipe



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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 Wires protected by galv. pipe

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

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

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

How are cables carried through beams galv. pipe through bulkheads, &c. galv. pipe

How are cables carried through decks Brass fitting screwed into deck, pipe screwed into fitting

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 galv. pipe secured to deck with clips

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

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 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 300 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. 1500

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.

J.C. Shipp

Electrical Engineers

Date 28th June 1918

COMPASSES.

Distance between dynamo or ^{wireless generator} electric motors and standard compass 20 ft

Distance between dynamo or electric motors and steering compass 50 ft

The nearest cables to the compasses are as follows:—

A cable carrying	1.5	Amperes	5	feet from standard compass	1	feet from steering compass
A cable carrying	3	Amperes	9	feet from standard compass	5	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.

J. Schlygen

Builder's Signature. Date

GENERAL REMARKS. The electric light installation on this vessel has been fitted in accordance with the Rules tried out under working conditions + found to be satisfactory

It is submitted that this vessel is eligible for THE RECORD, ELEC. LIGHT

Robert S. Blyth

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. AUG. 16. 1918

