

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1409

Port of Montreal Date of First Survey Dec. 9. 1918 Date of Last Survey June 20. 1919 No. of Visits 14
 No. in 1000 on the Iron or Steel S.S. War Mingan Port belonging to Quebec
 Reg. Book Free Rivers P2 By whom Free Rivers Shipbuilders Ltd. When built 1919
 Owners Imperial Munitions Board Owners' Address Grummond Building Montreal When fitted 1919
 Yard No. 1 Electric Light Installation fitted by Owners

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 10 KW. set consisting of a high speed Goldie McCulloch engine direct coupled to a General Electric Co's Dynamo.

Capacity of Dynamo 86 Amperes at 120 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Bottom platform in E.R. Whether single or double wire system is used Double
 Position of Main Switch Board " having switches to groups 6 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each All distribution boxes

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-oxidisable metal Yes and constructed to fuse at an excess of 50 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 Bartridge fuses used

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes
 Total number of lights provided for 137 arranged in the following groups:—

Group	Description	Number of Lights	Candle Power	Current (Amperes)
A	Navigation	5 lights each of	32	5.5
B	#1 Accommodation	40 lights each of	16	22.0
B	#2	24 lights each of	16	13.0
C	Cargo	36 lights each of	16	11.0
D	Wireless	— lights each of	—	12.0
E	Machinery	38 lights each of	16	16.5
1	Must head light with 2 lamps each of 1-24	2	1-32	1.5
2	Side light with 2 lamps each of "	2	"	3.0
6	Cargo lights of	6	16	Incandescent

If arc lights, what protection is provided against fire, sparks, &c. ✓

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

DESCRIPTION OF CABLES.

Cable Type	Amperes	Wires	W.G. Diameter	Area (sq. in.)
Main cable carrying	83	19	74.5	105.500
Branch cables carrying	22	7	48.6	16.510
Branch cables carrying	12	7	38.5	10.380
Leads to lamps carrying	3	7	24.02	4.107
Cargo light cables carrying	3	61	0.10	6530

DESCRIPTION OF INSULATION, PROTECTION, ETC.

1/32" of Para Rubber Insulated, Ins. Leads & compounded. Drawn into Sheathed conduit with cast iron W.T. Junction boxes

Joints in cables, how made, insulated, and protected Tension box system employing porcelain extension blocks in W.T. boxes

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 All in steel conduit



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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 *All steel conduit*

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

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 *✓* through bulkheads, &c. *N.T. glands*

How are cables carried through decks *N.T. tubes*

Are any cables run through coal bunkers *No* or cargo spaces *No* or spaces which may be used for carrying cargo, stores, or baggage *Prop deck*

If so, how are they protected *Heavy cast iron fittings & guards*

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

If so, how are the lamp fittings and cable terminals specially protected *Heavy cast iron fittings and guards*

Where are the main switches and fuses for these lights fitted *Prop deck alleyway*

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 & switch in N.T. box*

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 main 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 *✓*

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 *60* 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.

John S. Soble for Imperial Maritime Board Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *Eighty six feet*

Distance between dynamo or electric motors and steering compass *Eighty "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
5.5	Amperes	10	7
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

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.

GENERAL REMARKS.

This installation has been fitted on board. The materials & workmanship are good. The whole has been tried out under working conditions with satisfactory results.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

H.W.D.
3/9/19

Builder's Signature.

Date

July 15/19

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 30 SEP 1919

FRI 2 JAN 1920

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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.