

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1762

Port of Montreal Date of First Survey Oct. 22 Date of Last Survey Nov. 17 No. of Visits 6
 No. in Reg. Book on the ~~Iron~~ Steel S.S. "CANADIAN NAVIGATOR" Port belonging to Montreal
 Built at Montreal By whom Canadian Dickers Ltd When built 1919
 Owners Canadian Government Owners' Address Ottawa
 Yard No. 73 Electric Light Installation fitted by Builders When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 10KW Dickers dynamo direct coupled to a Goldie McCallloch high speed enclosed engine

Capacity of Dynamo 91 Amperes at 110 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 A. B. C. D & E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each None. Distribution boxes in E.R., Chart house Engineers Partry, Officers Partry and Crews Partry.

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 50-100 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 Cartridge fuses used

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

Total number of lights provided for 133 arranged in the following groups:—

A	Fwd Accom ^{tn}	56 lights each of 2-15W. 9-25W. 45-20W	candle power requiring a total current of	19	Amperes
B	Aft "	27 lights each of 5-25W. 21-40W. 1-32	candle power requiring a total current of	10	Amperes
C	Navigation	19 lights each of 7-10W. 2-40W. 1-32cp	candle power requiring a total current of	5.6	Amperes
D	Eng & Blk Room.	38 lights each of 5-16cp. 2-32cp. 31-40W	candle power requiring a total current of	16.0	Amperes
E	Cargo space etc.	36 lights each of	32 candle power requiring a total current of	37.6	Amperes
	1 Mast head light with	1 lamps each of	16 candle power requiring a total current of	0.54	Amperes
	2 Side light with	2 lamps each of 1-16 + 1-32	candle power requiring a total current of	1.59	Amperes
	5 Cargo lights of	6 - 32	candle power, whether incandescent or arc lights	Incandescent	

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

Where are the switches controlling the masthead and side lights placed In chart house on Navigation indicator

DESCRIPTION OF CABLES.

Main cable carrying	120 Amperes, comprised of	19 wires, each .084" DIAM S.W.G. diameter,	.1953 square inches total sectional area
Branch cables carrying	31 Amperes, comprised of	7 wires, each .061" S.W.G. diameter,	.02046 square inches total sectional area
Branch cables carrying	16 Amperes, comprised of	7 wires, each .039" S.W.G. diameter,	.00836 square inches total sectional area
Leads to lamps carrying	3 Amperes, comprised of	7 wires, each .024" S.W.G. diameter,	.003167 square inches total sectional area
Cargo light cables carrying	6 Amperes, comprised of	16 wires, each .01003" S.W.G. diameter,	.00126 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

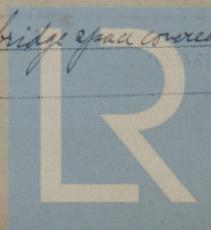
Butter insulated and covered with lead sheath in accommodation spaces. In machinery spaces cables are steel wire braided over the lead.

Joints in cables, how made, insulated, and protected No joints. All W.T. Junction boxes

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — 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 Clipped & bulkheads & under decks. In bridge space covered with steel steel casing.



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 *Lead covered and steel wire armoured*

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

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

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

How are cables carried through beams *Lead bushings* through bulkheads, &c. *W.T. glands*

How are cables carried through decks *W.T. deck tubes.*

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 *By steel steel casings*

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 guards. Leads run in piping*

Where are the main switches and fuses for these lights fitted *On main switch board.*

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 *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 1000 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.

FOR CARRIAGE VESSELS ONLY

M. Miller

Electrical Engineers

Date

COMPASSES.

General Manager.

Distance between dynamo or electric motors and standard compass *80 feet*

Distance between dynamo or electric motors and steering compass *88 feet*

The nearest cables to the compasses are as follows:— *No single cables near 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
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.

M. Miller

Builder's Signature.

Date

GENERAL REMARKS.

This installation has been fitted on board and tried out under varying loads with satisfactory results. The materials and workmanship are good.

It is submitted that this vessel is eligible for

THE RECORD. ELEC. LIGHT *29/2/19*

H. J. Alderson

Surveyor to Lloyd's Register of Shipping.

TUE. 9-MAR. 1920

Committee's Minute



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