

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1466

Port of *Montréal* Date of First Survey *Nov. 12* Date of Last Survey *Dec. 3 - 19* No. of Visits *9*
 No. in on the *Iron or Steel* *S.S. "CANADIAN SPINNER"* Port belonging to *Montréal*
 Reg. Book Built at *Montréal* By whom *Canadian Vickers Ltd.* When built *1919*
 Owners *Canadian Government* Owners' Address *Ottawa*
 Yard No. *71* Electric Light Installation fitted by *Builders* When fitted *1919*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

10 K.W. Vickers Semi-Enclosed dynamo direct coupled to a Goldie McPherson engine
 Capacity of Dynamo *91* Amperes at *110* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *Engine Room middle platform level* Whether single or double wire system is used *single*
 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 *Distribution boxes fitted.*

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

Are the fuses of non-oxidizable metal *Yes* and constructed to fuse at an excess of *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 *Instructions given*

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

Total number of lights provided for *145* arranged in the following groups:—

A. <i>Fore Account</i>	68 lights each of 2-16p. 4-15W. 5-20W	candle power requiring a total current of	22.5	Amperes
T. B. <i>Off "</i>	34 lights each of 1-2 1/2p. 1-16p. 3-20W	candle power requiring a total current of	12.5	Amperes
C. <i>Navigation</i>	23 lights each of 8-2 1/2p. 3-16p. 6-3p. 5-20W	candle power requiring a total current of	4.75	Amperes
D. <i>Extr Room</i>	51 lights each of 7-16p. 4-32p. 10-20W	candle power requiring a total current of	22.5	Amperes
E. <i>Cargo space deck</i>	lights each of 44-32p	candle power requiring a total current of	48.0	Amperes
Mast head light with	1 lamps each of	16 candle power requiring a total current of	1.54	Amperes
2 Side light with	2 lamps each of 16p + 1-32	candle power requiring a total current of	1.58	Amperes
5 Cargo lights of	6 light each 32	candle power, whether incandescent or arc lights	Incandescent	

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

Where are the switches controlling the masthead and side lights placed *On navigating indicator in chart room.*

DESCRIPTION OF CABLES.

Main cable carrying	110 Amperes, comprised of	19 wires, each	.084" S.W.G. diameter,	.105 square inches total sectional area
Branch cables carrying	40 Amperes, comprised of	7 wires, each	.063" S.W.G. diameter,	.02 square inches total sectional area
Branch cables carrying	12.25 Amperes, comprised of	7 wires, each	.041" S.W.G. diameter,	.0129 square inches total sectional area
Leads to lamps carrying	5 Amperes, comprised of	7 wires, each	.022" S.W.G. diameter,	.0032 square inches total sectional area
Cargo light cables carrying	6 Amperes, comprised of	27 wires, each	.01" S.W.G. diameter,	.002 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber insulated lead covered & armoured cables 30% pure Para rubber being used for insulation

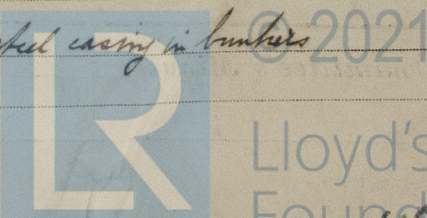
Joints in cables, how made, insulated, and protected

No joints in cables. All joints made 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 *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 *blipped to decks & bulkheads. Steel shield casing in bunkers*



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes except for a short length in Bridge bunker*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered and armoured*

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

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

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

How are cables carried through beams *in 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 *only for cargo spaces* *Yes* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *Hot steel galvanized guard & conduit*

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 *Lamps heavily guarded. Cables in conduit.*

Where are the main switches and fuses for these lights fitted *In the distribution box*

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 & W. T. switch* How fixed *Portable & cluslers*

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 *1500* 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.

M. Miller

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *96 ft*

Distance between dynamo or electric motors and steering compass *93 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>6.75</i>	Amperes	<i>12</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

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 under steam at varying loads with satisfactory results. The materials and workmanship are good.

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

ELEC. LIGHT

30/12/19

R. J. Alderson

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.