

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 739.

Part of Vancouver, B.C. Date of First Survey Jan 6/19 Date of Last Survey May 1/19 No. of Visits 12
 No. in on the Iron or Steel S.S. War Cavalry Port belonging to London
 Reg. Book Built at Vancouver, B.C. By whom J. Coughlan & Sons When built 1919
 Owners Imperial Munitions Board. Owners' Address Halliburton Street, managing owner, Glasgow.
 Yard No. 7 Electric Light Installation fitted by J. Coughlan & Sons Ltd. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Terry Steam Turbines, Direct Coupled to Two 60 Ampere 4 Pole, Compound wound Canadian General Electric Generators, Speed 3,600 R.P.M., Steam Pressure 190 lbs. 0"

Capacity of Dynamo 60 Amperes at 120 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Starboard Side Engine Room, Whether single or double wire system is used Double

Position of Main Switch Board Starboard Side Engine Room, 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 A Engine Room, 12 Switches, B Crew's Quarters 6 Switches, C Wheelhouse 6 Switches, D Wireless Motor 5 Switches, E Officers Quarters 8 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 Yes,

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

Total number of lights provided for 170, arranged in the following groups:—

A	60	lights each of	16	candle power requiring a total current of	30	Amperes
B	45	lights each of	16	candle power requiring a total current of	22.5	Amperes
C	14	lights each of	16	candle power requiring a total current of	8	Amperes
D	Wireless Motor	lights each of	1/2 T.W.	candle power requiring a total current of	5	Amperes
E	51	lights each of	16	candle power requiring a total current of	25.5	Amperes
	2	Mast head light with 1 lamps each of	32	candle power requiring a total current of	2	Amperes
	2	Side light with 1 lamps each of	32	candle power requiring a total current of	2	Amperes
	5	Cargo lights of	80	candle power, whether incandescent or arc lights	Incandescent	

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

Where are the switches controlling the masthead and side lights placed In Wheelhouse,

DESCRIPTION OF CABLES.

Main cable carrying 25 Amperes, comprised of 19/14 wires, each 400 S.W.G. diameter, 09312 square inches total sectional area
 Branch cables carrying 46 Amperes, comprised of 7/14 wires, each 240 S.W.G. diameter, 03459 square inches total sectional area
 Branch cables carrying 33 Amperes, comprised of 7/16 wires, each 192 S.W.G. diameter, 02214 square inches total sectional area
 Leads to lamps carrying 13 Amperes, comprised of 12 wires, each 104 S.W.G. diameter, 008495 square inches total sectional area
 Cargo light cables carrying 10 Amperes, comprised of 1/14 wires, each 080 S.W.G. diameter, 005027 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

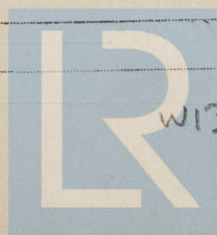
All Cables are run in Steel Conduit & Terminate in Watertight Boxes. Cables are all double Braided & Rubber Covered

Joints in cables, how made, insulated, and protected Joints are western union with 3 layers of Rubber tape and one layer of friction tape coated with an insulated varnish & the resistance is equal to original wire

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 In 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 *Conduit and watertight fittings*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Asbestos covered wire in Conduit*

What special protection has been provided for the cables near boiler casings *Asbestos covered wire in Conduit*

What special protection has been provided for the cables in engine room *Asbestos covered wire in Conduit*

How are cables carried through beams *In Conduit* through bulkheads, &c. *In Conduit*

How are cables carried through decks *In Conduit*

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 *In Conduit.*

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. Two.*, fixed *on 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 *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.

J. Houghton & Sons Electrical Engineers Date *May 7/19*
J. Houghton

COMPASSES.

Distance between dynamo or electric motors and standard compass *150 feet*

Distance between dynamo or electric motors and steering compass *300 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>8</i>	<i>10</i>	<i>100</i>	
<i>6</i>	<i>100</i>	<i>3</i>	
<i>✓</i>	<i>✓</i>	<i>✓</i>	

Have the compasses been adjusted with and without the electric installation at work at full power *Yes.*

The maximum deviation due to electric currents, etc., was found to be *Nil* degrees on *Nil* course in the case of the standard compass and *Nil* degrees on *any* course in the case of the steering compass.

J. Houghton & Sons Builder's Signature. Date *May 7/19*
J. Houghton

GENERAL REMARKS.

The Electric Light Installation is of Good Quality and workmanship tested under working conditions and found Satisfactory. Eligible in my opinion to be noted Electric Light in Register Book.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. *Geo. C. McQuinn*
12/6/19 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI JUN. 13. 1919

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.