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Rpt. 13.

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# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 810

Port of Vancouver B.C. Date of First Survey ✓ Date of Last Survey 19 June 1920 No. of Visits ✓  
 No. in Reg. Book on the Iron or Steel Margaret Loughlan Port belonging to Vancouver B.C.  
 Built at Vancouver B.C. By whom J. Coughlan & Sons When built 1920  
 Owners Canada Western Steamship Co. Owners' Address Vancouver B.C.  
 Yard No. 15 Electric Light Installation fitted by J. Coughlan & Sons When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

115 Volt, 10 KW Continuous current compound wound.  
Dynamo too off direct connected to the 6 x 6 inch engine.

Capacity of Dynamo 87 Amperes at 115 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Room Mast Whether single or double wire system is used double

Position of Main Switch Board Engine Room Mast 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 (11 circuits) B Wheelhouse (6 circuits) C Officers quarters (11 circuits) D Poop crews quarters (6 circuits) E wireless.

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 25 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 ✓

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

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

A	95	lights each of .40	candle power requiring a total current of 40	Amperes
B	12	lights each of 3.31 <sup>cp</sup> 4.16 <sup>cp</sup> 51	candle power requiring a total current of 3.57	Amperes
C	61	lights each of 21.32 33.16	candle power requiring a total current of 21.57	Amperes
D	43	lights each of 14.32 29.16	candle power requiring a total current of 12.57	Amperes
E	wireless	lights each of 1 1/2 kW	candle power requiring a total current of 17	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 6 x 16 - 96	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	87	Amperes, comprised of 2 x 7 wires, each	13	S.W.G. diameter, .093056 square inches total sectional area
Branch cables carrying	40	Amperes, comprised of 7 wires, each	17	S.W.G. diameter, .012041 square inches total sectional area
Branch cables carrying	21.57	Amperes, comprised of 7 wires, each	18	S.W.G. diameter, .002665 square inches total sectional area
Leads to lamps carrying	3	Amperes, comprised of 1 wires, each	16	S.W.G. diameter, .003217 square inches total sectional area
Cargo light cables carrying	3	Amperes, comprised of 1 wires, each	16	S.W.G. diameter, .003217 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

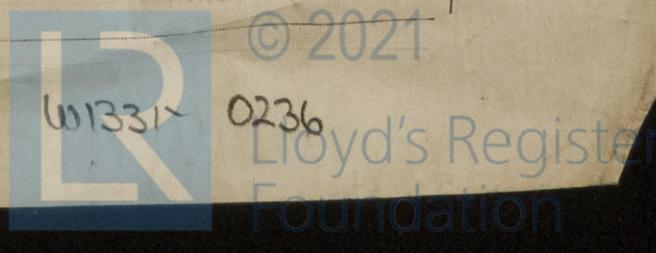
Double braided rubber insulated wires enclosed in steel conduits

Joints in cables, how made, insulated, and protected Western Union splices soldered and insulated with fire thicknesses of rubber tape, fire thicknesses joint in tape, the whole painted with insulating compound

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 steel conduits



**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 steel conduits

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

What special protection has been provided for the cables near boiler casings Arbester cover wire in conduit

What special protection has been provided for the cables in engine room steel 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 no or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected steel 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 permanently fixed How fixed iron straps

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 two, fixed in Main 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 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.

John Coughlan & Sons Ltd Electrical Engineers Date 2/8/20

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 200 feet

Distance between dynamo or electric motors and steering compass 150 feet

The nearest cables to the compasses are as follows:—

Cable Carrying	Amperes	Feet from standard compass	Feet from steering compass
<u>5.5</u>	<u>16</u>	<u>8</u>	<u>8</u>
<u>21.5</u>	<u>24</u>	<u>16</u>	<u>16</u>
<u>160</u>	<u>84</u>	<u>75</u>	<u>75</u>

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 no degrees on any course in the case of the standard compass and no degrees on any course in the case of the steering compass.

John Coughlan & Sons Ltd Builder's Signature. Date 2/8/20

**GENERAL REMARKS.**

The electric lighting installation is of good quality, as far as seen, tested under working conditions & 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

John Coughlan Surveyor to Lloyd's Register of Shipping.

FRI. SEP. 3 1920

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.