

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 726.

Port of Vancouver, B.C. Date of First Survey Jan 18/19 Date of Last Survey March 15 1919 No. of Visits 12  
 No. in Reg. Book on the Iron or Steel Eng. & Screw Steam War Vessel Port belonging to London  
 Built at Vancouver, B.C. By whom J. Coughlan & Sons When built 1919  
 Owners The Shipping Controller Owners' Address Rabbun Verel Managers Glasgow  
 Yard No. 6 Electric Light Installation fitted by J. Coughlan & Sons When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Compound Wound Direct Current Dynamos, Canadian General Electric Direct Coupled to Two 8 1/2 H.P. Simple Steam Engines 5' x 4 1/2" Speed 550, 100 H.P.

Capacity of Dynamo 74.5 Amperes at 110 Volts, whether continuous or alternating current Continuous

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

Position of Main Switch Board Engine Room Starboard 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 Wheel House Six switches

B, Officers Quarters Starboard Eight switches, Engine Room Starboard Ten switches

D, Crews Quarters Starboard Six switches 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-oxidisable 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 One Hundred & Seventy arranged in the following groups :-

A Fourteen lights each of Sixteen candle power requiring a total current of Eight Amperes

B Fifty one lights each of Sixteen candle power requiring a total current of Twenty Seven 1/2 Amperes

C Sixty lights each of Sixteen candle power requiring a total current of Thirty Amperes

D Forty five lights each of Sixteen candle power requiring a total current of Twenty Two 1/2 Amperes

E Wireless lights each of 1/2 Tels. Volt. candle power requiring a total current of Five Amperes

Two Mast head light with one lamp each of Thirt, Two candle power requiring a total current of one, Amperes

Two Side light with one lamp each of Thirt, Two candle power requiring a total current of one, Amperes

Five Cargo lights of Eighty 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 75 Amperes, comprised of 19/14 wires, each 400 S.W.G. diameter, 09372 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 1/2 wires, each 104 S.W.G. diameter, 008495 square inches total sectional area

Cargo light cables carrying 10 Amperes, comprised of 7/14 wires, each 080 S.W.G. diameter, 005027 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

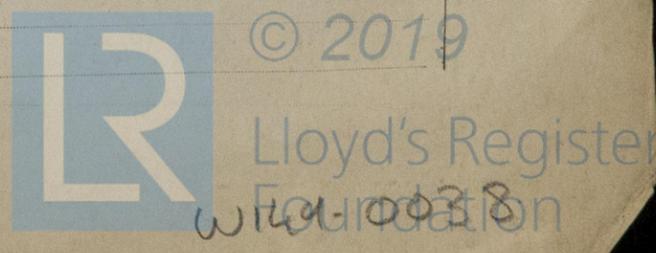
All Cables are enclosed in Steel Conduit and terminate in Watertight Boxes. Cables are all Double Braided and Rubber covered.

Joints in cables, how made, insulated, and protected Joints are Western Union with three layers of rubber tape and one layer of friction tape coated with P & B. Paint and the resistance is equal to the 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



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*

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

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

What special protection has been provided for the cables in engine room *Asbestos Covered 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 *A*

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 amperometer *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 2500 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.

*W. J. Houghton & Sons* Electrical Engineers Date *February 24 1919*  
*W. J. Houghton & Sons*

COMPASSES.

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

Distance between dynamo or electric motors and steering compass *200 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying <i>Eight</i> Amperes <i>Yes</i> feet from standard compass <i>one Hundred</i> feet from steering compass
A cable carrying <i>Six</i> Amperes <i>one Hundred</i> feet from standard compass <i>Three</i> 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 *Yes.*

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

*W. J. Houghton & Sons* Builder's Signature. Date *February 24 1919*  
*W. J. Houghton & Sons*

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

*It is submitted that*  
 Book 3-19 *this vessel is eligible for*  
**THE RECORD. ELEC LIGHT**

*W. J. Houghton & Sons*  
*W. J. Houghton & Sons*

*W. J. Houghton & Sons* Surveyor to Lloyd's Register of Shipping.  
*W. J. Houghton & Sons*

Im. 6. 16. - Transfer

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

