

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 826

Port of Vancouver B.C. Date of First Survey 12 July Date of Last Survey 2 Oct 1920 No. of Visits 8
 No. in on the Iron or Steel SS "CITY OF VANCOUVER" Port belonging to Vancouver.
 g. Book Built at Vancouver B.C. By whom J. Coughlan & Sons When built 1920
 Owners Vancouver Steamship Co. Ltd. Owners' Address Vancouver B.C.
 Card No. "18" Electric Light Installation fitted by J. Coughlan & Sons When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

15 Volt 10 KW Continuous current compound wound Dynamos
two & direct connected to two 6x6 single engines.

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

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

Position of Main Switch Board 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, 11 circuits) B Wheelhouse
6 circuits) C Officers quarters 11 circuits) D Prop. Crews quarters
6 circuits) E Main Deck.

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 224 arranged in the following groups:—

A	<u>96</u>	lights each of	<u>40</u>	candle power requiring a total current of	<u>40</u>	Amperes
B	<u>12</u>	lights each of	<u>3-31^{SP}, 4-16^{SP}, 5-8^{SP}</u>	candle power requiring a total current of	<u>3.5</u>	Amperes
C	<u>61</u>	lights each of	<u>21-32^{SP}, 40-16^{SP}</u>	candle power requiring a total current of	<u>21.5</u>	Amperes
D	<u>43</u>	lights each of	<u>14-32^{SP}, 29-16^{SP}</u>	candle power requiring a total current of	<u>12.5</u>	Amperes
E	<u>various</u>	lights each of	<u>1 1/2 KW</u>	candle power requiring a total current of	<u>14.0</u>	Amperes
	<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2</u> Amperes
	<u>2</u>	Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2</u> Amperes
	<u>5</u>	Cargo lights of	<u>6 x 16 - 96</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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	<u>87</u>	Amperes, comprised of	<u>2x7</u> wires, each	<u>13</u>	S.W.G. diameter, <u>.093056</u> square inches total sectional area
Branch cables carrying	<u>40</u>	Amperes, comprised of	<u>7</u> wires, each	<u>17</u>	S.W.G. diameter, <u>.012041</u> square inches total sectional area
Branch cables carrying	<u>4.5</u>	Amperes, comprised of	<u>7</u> wires, each	<u>18</u>	S.W.G. diameter, <u>.002665</u> square inches total sectional area
Leads to lamps carrying	<u>3</u>	Amperes, comprised of	<u>1</u> wires, each	<u>16</u>	S.W.G. diameter, <u>.003217</u> square inches total sectional area
Cargo light cables carrying	<u>3</u>	Amperes, comprised of	<u>1</u> wires, each	<u>16</u>	S.W.G. diameter, <u>.003217</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

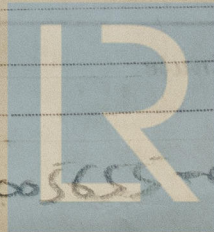
Double braided rubber insulated wires enclosed in steel conduits

Joints in cables, how made, insulated, and protected American Union splices soldered and insulated with five thicknesses of rubber tape, five thicknesses junction 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



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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 steel conduits

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat asbestos cover, wire in conduits

What special protection has been provided for the cables near boiler casings asbestos cover, wire in conduits

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

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 How fixed metal 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 yes two, fixed over 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.

Edou Cuykelaer & Sons Ltd

Electrical Engineers

Date 9th Oct 1920

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:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>5.5</u>	<u>16</u>	<u>8</u>	
<u>21.5</u>	<u>24</u>	<u>16</u>	
<u>160</u>	<u>84</u>	<u>76</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.

Edou Cuykelaer & Sons Ltd

Builder's Signature.

Date 9th Oct 1920

GENERAL REMARKS.

This vessel is wired for wireless but installation is same not fitted. The electric light installation is of good quality, tested under working condition, and is eligible in my opinion to be noted "Electric Light" in Register Book.

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

See Lt Bell 5/11/20

Guan Luard

Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE NOV. 19 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im 7,10—Transfer.