

Rpt. 13.

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 841

Port of *Vancouver BC* Date of First Survey *27 July* Date of Last Survey *25 Novem* No. of Visits *12*
 No. in Reg. Book *on the Iron or Steel* *Canadian Winner* Port belonging to *Montreal*
 Built at *Victoria BC.* By whom *Harbour Marine Ltd* When built *1920*
 Owners *Canadian Government* Owners' Address *Ottawa Canada*
 Yard No. *1* Electric Light Installation fitted by *Harbour Marine Ltd* When fitted *1920*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-10 KW Continuous current compound 110-120 Volt (J.H. Holmes & Co.)
Dynamo direct coupled to a 6 1/2 x 6 Vertical single (Robey Engine)

Capacity of Dynamo *91* Amperes at *110* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *Engine Room Starboard side* Whether single or double wire system is used *double wires*

Position of Main Switch Board *Engine Room Starboard* having switches to groups *A B C D E F* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *A Chart house 10 circuits, B Wireless 1 1/2 KW Motor, C crew mess room 10 circuits, D Engine Room casing 10 circuits, E Cargo clusters, F Forward accommodation 10 circuits, Starboard 10 circuits Port.*

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 *211* arranged in the following groups:—

A	16	lights each of	16	candle power requiring a total current of	6	Amperes
B	<i>Motor & wireless</i>	lights each of	<i>1 1/2 KW</i>	candle power requiring a total current of	<i>14</i>	Amperes
C	33	lights each of	32	candle power requiring a total current of	12.4	Amperes
D	42	lights each of	32	candle power requiring a total current of	19.5	Amperes
E	14	lights each of	32	candle power requiring a total current of	14	Amperes
F	<i>67 lamps & two fans</i>	lamps each of	32	candle power requiring a total current of	30	Amperes
	2	Side light with	1	lamps each of	32	Amperes
	5	Cargo lights of	192	candle power, whether incandescent or are lights	<i>Incandescent</i>	

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

Where are the switches controlling the masthead and side lights placed *Chart house*

DESCRIPTION OF CABLES.

Main cable carrying	91	Amperes, comprised of	19	wires, each	#14	S.W.G. diameter, .09760	square inches total sectional area
Branch cables carrying	38	Amperes, comprised of	7	wires, each	#17	S.W.G. diameter, .01758	square inches total sectional area
Branch cables carrying	28	Amperes, comprised of	7	wires, each	#18	S.W.G. diameter, .01292	square inches total sectional area
Leads to lamps carrying	24	Amperes, comprised of	7	wires, each	#20	S.W.G. diameter, .00727	square inches total sectional area
Cargo light cables carrying	6	Amperes, comprised of		wires, each	#10	S.W.G. diameter, .003217	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables are rubber insulated braided & lead sheathed and armoured with steel wire braided

Joints in cables, how made, insulated, and protected *no cable splices any joints that are made armour is airtight, junction 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 *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 armoured cable*

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 *Lead sheathed and steel armour with watertight fittings*

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

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

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

How are cables carried through beams *Lead bushings* through bulkheads, &c. *glands*

How are cables carried through decks *clark tubes*

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 *Armoured cables*

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 *Approved cargo space fittings*

Where are the main switches and fuses for these lights fitted *Main switch board*

If in the spaces, how are they specially protected *Armoured cable*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *Plug Box on deck*

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 fruit cabin 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 *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.

Harbour Marine C. L. for C.E.A. Electrical Engineers Date *Dec 26*

COMPASSES.

Distance between dynamo or electric motors and standard compass *30 feet and 150 feet*

Distance between dynamo or electric motors and steering compass *35 feet and 155 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Ampere	feet from standard compass	feet from steering compass
<i>10</i>	<i>13</i>	<i>15</i>	
<i>28.5</i>	<i>38</i>	<i>38</i>	
<i>18</i>	<i>38</i>	<i>38</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 *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.

Builder's Signature. Date

GENERAL REMARKS.

The Electric Light Installation is of good quality tested under working conditions and found satisfactory. Eligible in my opinion to be noted "Electric Light" in the Register Book

Charles & Erwin Edwards
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 1 APR. 1921

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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