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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 866

Port of *Vancouver B.C.* Date of First Survey *16 Dec 1920* Date of Last Survey *8 April 1921* No. of Visits *18*
 No. in Reg. Book *SS "CANADIAN TRAVELLER"* Port belonging to *Montreal*
 Built at *Victoria B.C.* By whom *Harbour Marine L^d* When built *1921*
 Owners *Canadian Government* Owners' Address *Ottawa Canada*
 Yard No. *"2"* Electric Light Installation fitted by *Harbour Marine L^d* When fitted *1921*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 10 KW Continuous current compound 110-120 Volt (24 Holmes & Co) Dynamo direct coupled to a 6½ x 6 Vertical single (Poley Engine)

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

Where is Dynamo fixed *Engine Room on starboard side* Whether single or double wire system is used *double*

Position of Main Switch Board *Engine Room bulkhead* 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 1½ KW Motor, C. crew mess room 10 circuits, D. Engine room casing 10 circuits, E. Cargo clusters, F. Forward accommodation 10 circuits starboard and 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:—

Group	Number of lights	Each of	Candle power	Requiring a total current of	Amperes
A	16	lights each of 16		6	Amperes
B	<i>Motor & wireless</i>	lights each of 1½ KW		14	Amperes
C	33	lights each of 32		12.4	Amperes
D	42	lights each of 32		19.5	Amperes
E	14	lights each of 32		14	Amperes
F	67 lamps & two fans	lights each of 32		30	Amperes
	2	Mast head light with 1 lamp each of 32		2	Amperes
	2	Side light with 1 lamp each of 32		2	Amperes
	5	Cargo lights of 192			Amperes

If arc lights, what protection is provided against fire, sparks, &c. *no*

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 *10* wires, each *#10* S.W.G. diameter, *.003217* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

all cables are rubber insulated and lead sheathed and armoured with steel wire.

Joints in cables, how made, insulated, and protected *spliced, soldered and taped with both rubber and friction tape.*

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.*



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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 *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 *duct 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 cable*

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 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.

Electrical Engineers

Date

COMPASSES.

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

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

The nearest cables to the compasses are as follows:—

A cable carrying	Ampères	feet from standard compass	feet from steering compass
10	13	15	
28.5	38	38	
18	38	38	

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.

Allan Beaufort P. R. D. Builder's Signature. Date *May 1st 1921*

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.

It is submitted that this vessel is eligible for

THE RECORD. Elec Light

Ernest Edwards
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE MAY 31 1921*

TUE NOV. 1 1921



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