

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 782.

Port of Vancouver B.C. Date of First Survey Nov 3/19 Date of Last Survey July 9/20 No. of Visits 15
 No. in 35 on the Iron or Steel S.S. Canadian Importer Port belonging to Montreal
 Built at Vancouver, B.C. By whom J. Coughlan & Sons Ltd When built 1920
 Owners Canadian Government Department of Marine Owners' Address Ottawa, Ont., Canada
 Yard No. 11 Electric Light Installation fitted by J. Coughlan & Sons Ltd When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-10 H. V. Continuous Compound, 110-120 Volt. Canadian General Electric
Dynamo, Direct Coupled, to a 7x4 Vertical Simple Engine, Forced Lubrication

Capacity of Dynamo 90 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed over Engine Room Stove Starboard Whether single or double wire system is used Double Wire
 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
room 1 1/2 H. V. Motor, C. Crews Messroom, 10 circuits. D. Engine Room Casings
8 Circuits, E. Cargo Cluster Plugs, F. Forward Accommodation 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 ✓
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes,

Total number of lights provided for 209, arranged in the following groups :-

Group	Number of Lights	Wattage per Light	Total Wattage	Current (Amperes)
A	16	16	256	6
B	1 1/2 H. V. Wireless	1 1/2 H. V.		14
C	33	32	1056	12.5
D	42	32	1344	19.5
E	14	32	448	14.0
F	2 Mast head light with 1 lamps each of 32	32	64	2
	2 Side light with 1 lamps each of 32	32	64	2
	5 Cargo lights of 192			

candle power requiring a total current of 6 Amperes
 candle power requiring a total current of 14 Amperes
 candle power requiring a total current of 12.5 Amperes
 candle power requiring a total current of 19.5 Amperes
 candle power requiring a total current of 14.0 Amperes
 candle power requiring a total current of 2 Amperes
 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 Chart House,

DESCRIPTION OF CABLES.

Main cable carrying 90 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 7 wires, each #16 S.W.G. diameter, .003217 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables are Rubber Insulated, Braided and Lead Sheathed and
Armoured with Steel wire Braid.

Joints in cables, how made, insulated, and protected No Cables Spliced any joints
that are made are in watertight 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 Sheathing 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 Armoured Cable

What special protection has been provided for the cables near boiler casings Armoured Cable

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

How are cables carried through beams Lead Bushings through bulkheads, &c. Bulkhead Glands

How are cables carried through decks Deck 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 ✓

Are any switches or fuses fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Permanently Fixed How fixed Brass 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., fixed in 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.

J. COUGHLAN & SONS LIMITED

John Coughlan

Electrical Engineers

Date July 5 1920

COMPASSES.

Distance between dynamo or electric motors and standard compass 30 feet.

Distance between dynamo or electric motors and steering compass 35 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>10</u>	Amperes	<u>13.</u>	feet from standard compass	<u>15</u>	feet from steering compass
A cable carrying	<u>28.5</u>	Amperes	<u>38</u>	feet from standard compass	<u>38</u>	feet from steering compass
A cable carrying	<u>18</u>	Amperes	<u>38</u>	feet from standard compass	<u>38.</u>	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 None degrees on any course in the case of the standard compass and None. degrees on any course in the case of the steering compass.

J. COUGHLAN & SONS LIMITED

John Coughlan

Builder's Signature.

Date July 5 1920

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 Book.

It is submitted that this vessel is eligible for THE RECORD, ELEC. LIGHT 30/3/20

Geo. C. McGowan

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. JUN. 4 1920

FRI. DEC. 31 1920

FRI. TOMAR 1922
TUE. MAR. 15 1921

TUE. 17 JUN. 1921



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