

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 746.

Port of *Vancouver, B.C.* Date of First Survey *Dec 3/18* Date of Last Survey *July 16/19* No. of Visits *29*
 No. in Reg. Book *on the Iron or Steel* *S.S. War Column* Port belonging to *London*
 Built at *Vancouver, B.C.* By whom *J. Coughlan & Son* When built *1919*
 Owners *Imperial Munitions Board* Owners' Address *Raeburn West Manager Glasgow*
 Yard No. *9* Electric Light Installation fitted by *J. Coughlan & Son* When fitted *1919*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two off. 12 H.P. Terry Steam Turbines. Direct Coupled to 60 Ampere, 4 Pole. Compound Wound Canadian General Electric Generators Speed 3600 R.P.M. 88. P. 190 lb

Capacity of Dynamo *60* 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 Engine Room, 12 switches, B Crews Quarters 6 switches, C Wheelhouse 6 switches, D Wireless motor, E Officer's Quarters, 8 switches*

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 *170* arranged in the following groups:—

| | | | | | | |
|---|-----------------------|---|-----------------|--|---------------------|---------|
| A | <i>60</i> | lights each of | <i>16</i> | candle power requiring a total current of | <i>30</i> | Amperes |
| B | <i>45</i> | lights each of | <i>16</i> | candle power requiring a total current of | <i>22.5</i> | Amperes |
| C | <i>14</i> | lights each of | <i>16</i> | candle power requiring a total current of | <i>8</i> | Amperes |
| D | <i>Wireless Motor</i> | lights each of | <i>1/2 H.P.</i> | candle power requiring a total current of | <i>5</i> | Amperes |
| E | <i>51</i> | lights each of | <i>16</i> | candle power requiring a total current of | <i>25.5</i> | Amperes |
| | <i>2</i> | Mast head light with <i>1</i> lamps each of | <i>32</i> | candle power requiring a total current of | <i>2</i> | Amperes |
| | <i>2</i> | Side light with <i>1</i> lamps each of | <i>32</i> | candle power requiring a total current of | <i>2</i> | Amperes |
| | <i>5</i> | Cargo lights of | <i>80</i> | candle power, whether incandescent or arc lights | <i>Incandescent</i> | |

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, *0.9372* square inches total sectional area
 Branch cables carrying *46* Amperes, comprised of *#7/14* wires, each *240* S.W.G. diameter, *0.3459* square inches total sectional area
 Branch cables carrying *33* Amperes, comprised of *#4/16* wires, each *192* S.W.G. diameter, *0.2214* square inches total sectional area
 Leads to lamps carrying *13* Amperes, comprised of *#1/2* wires, each *104* S.W.G. diameter, *0.08495* square inches total sectional area
 Cargo light cables carrying *10* Amperes, comprised of *#1/4* wires, each *080* S.W.G. diameter, *0.05027* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All Cables are run in Steel Conduit and terminate in Watertight Boxes. cables are all Double Braided + Rubber Covered.

Joints in cables, how made, insulated, and protected *Joints are Western Union with 3 layers of Rubber Tape + one layer of Friction Tape. coated with an insulated varnish 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.*



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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

Conduit and watertight fittings

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

Asbestos covered wire 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

✓

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 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 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.

J. Houghlan & Sons
Per. S. Houghlan

Electrical Engineers

Date July 23/19

COMPASSES.

Distance between dynamo or electric motors and standard compass

150 ft.

Distance between dynamo or electric motors and steering compass

200 ft.

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | feet from standard compass | feet from steering compass |
|------------------|---------|----------------------------|----------------------------|
| 8 | 10 | 100 | 100 |
| 6 | 100 | 3 | 3 |
| ✓ | ✓ | ✓ | ✓ |

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

Nil

course in the case of the

standard compass and

Nil

degrees on

any

course in the case of the steering compass.

J. Houghlan & Sons
Per. S. Houghlan

Builder's Signature.

Date July 23/19

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.

J. H. D.
29/8/19

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI AUG 22 1919

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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