

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 2179

Port of Halifax N.S. Date of First Survey Dec 20th 1929 Date of Last Survey July 22nd 1930 No. of Visits 30
 No. in Reg. Book on the Iron or Steel Ship No. "H.B. McLean" Port belonging to Ottawa
 Built at Halifax N.S. By whom Halifax Shipyards, Ltd When built 1920
 Owners Canadian Government Owners' Address _____
 Yard No. 5 Electric Light Installation fitted by Halifax Shipyards, Ltd. When fitted 1930

DESCRIPTION OF DYNAMO, ENGINE, ETC.

6 Pole compound with 6 inter pole generator direct connected to steam compound engines. generator made by Messrs Lawrence Scott & Co. Ltd. and engine by Messrs. Howden & Co. Ltd. 30 H.P. and 1 emergency 7 H.P. oil driven generator (2 main 1 aux)
 Capacity of Dynamo 273 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine room top platform Whether single or double wire system is used Double
 Position of Main Switch Board Engine room top platform having switches to groups eight of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each fixed and connected to main switch board

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 50 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 234 arranged in the following groups:—
 A Engine room 76 lights each of 40 watt candle power requiring a total current of 38 Amperes
 B Forward accommodation 80 lights each of " candle power requiring a total current of 40 Amperes
 C Aft 42 lights each of " candle power requiring a total current of 21 Amperes
 D Right lights 14 lights each of " candle power requiring a total current of 7 Amperes
 E Deck light lights each of 3-210 candle power requiring a total current of 100 Amperes
2 Mast head light with 1 lamps each of 50 watt candle power requiring a total current of 1 Amperes
2 Side light with 1 lamps each of " candle power requiring a total current of 1 Amperes
3 choke Cargo lights of 6 light-red " 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 Self-act in wheel house

DESCRIPTION OF CABLES.

Main cable carrying 210 Amperes, comprised of 2 single wires, each 2 cables + X S.W.G. diameter, 400.000 square inches total sectional area
 Branch cables carrying 40 Amperes, comprised of " wires, each 4 S.W.G. diameter, 41.740 square inches total sectional area
 Branch cables carrying 21 Amperes, comprised of " wires, each 4 S.W.G. diameter, 41.740 square inches total sectional area
 Leads to lamps carrying _____ Amperes, comprised of _____ wires, each _____ S.W.G. diameter, _____ square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 3 wires, each 14 S.W.G. diameter, 4.107 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wires insulated with rubber, tape, lead and jute covered

Joints in cables, how made, insulated, and protected No joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances _____ 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 _____

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 Armoured cable on Galv-iron trays. All cables through beams lead headed, passing through deck pipes with R.T. glands.

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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 covered & armoured

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 backed through bulkheads, &c. Piped and w.T. glands

How are cables carried through decks Deck pipes and w.T. glands

Are any cables run through coal bunkers or cargo spaces or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Armoured cable on wood runways

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 Water tight Well Glass and guard

Where are the main switches and fuses for these lights fitted Main deck

If in the spaces, how are they specially protected Water tight Well Glass & guard

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, fixed on 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 not less than 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.

R. G. Wilson

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 130 ft

Distance between dynamo or electric motors and steering compass 125 ft

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>6</u>	<u>15</u>	<u>10</u>	<u>10</u>
<u>100</u>	<u>15</u>	<u>10</u>	<u>10</u>
<u> </u>	<u> </u>	<u> </u>	<u> </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 the course in the case of the standard compass and no degrees on the course in the case of the steering compass.

R. G. Wilson

Builder's Signature.

Date

GENERAL REMARKS.

The electric light installation on this vessel has been fitted in accordance with the Rules and approved plans in a satisfactory manner. The materials and workmanship are good. The installation has been tested under full working conditions with satisfactory results.

Elec. Light Wilson.
R. G. 2/9/30.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 19 SEP 1930

Elec. Light.



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