

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1522.

Port of Montreal Date of First Survey Feb. 27 Date of Last Survey June 12/18 No. of Visits 11
 on the ~~Iron~~ or Steel S. S. "PORSANGER" Port belonging to Montreal
 No. in Reg. Book 8 Built at Montreal By whom Canadian Vickers Ltd. When built 1918
 Owners Nespal Larsen Owners' Address _____ When fitted 1918
 Yard No. 8 Electric Light Installation fitted by Canadian Vickers Ltd.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-10 K.W. direct coupled generating set of Vickers Goldie McCulloch manufacture

Capacity of Dynamo 91 Amperes at 110 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Bottom Platform in Engine Room Whether single or double wire system is used Single
 Position of Main Switch Board " " " having switches to groups A. B. C. & D of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each No auxiliary switch boards. Fused distribution boxes fitted.

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 100 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 Cartridge fuses used.
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 158 arranged in the following groups:—

A	Eng & Boiler Room	36 lights each of 5-16 c.p., 31-40 W.	candle power requiring a total current of	<u>14</u>	Amperes
B	Food Accommodation	41 lights each of 4-15 W. 8-25 W. 29-40 W.	candle power requiring a total current of	<u>13.6</u>	Amperes
C	Navigating	22 lights each of 6-8 c.p., 3-2 1/2 c.p., 2-5 c.p.	candle power requiring a total current of	<u>3.65</u>	Amperes
D	Off Accommodation	19 lights each of 1-16 c.p., 4-20 W., 14-40 W.	candle power requiring a total current of	<u>6.55</u>	Amperes
E		lights each of	candle power requiring a total current of		Amperes
	2 Mast head light with	1 lamps each of 2 1/2	candle power requiring a total current of	<u>.16</u>	Amperes
	2 Side light with	1 lamps each of 5	candle power requiring a total current of	<u>.35</u>	Amperes
	5 Cargo lights of	6 lamps in cluster each 32	candle power, whether incandescent or arc lights	<u>incandescent.</u>	

If arc lights, what protection is provided against fire, sparks, &c. None fitted

Where are the switches controlling the masthead and side lights placed In Chart House on Navigating Tell Tale.

DESCRIPTION OF CABLES.

Main cable carrying	<u>90-100</u> Amperes, comprised of	<u>19</u> wires, each # <u>00</u>	<u>B & S</u> S.W.G. diameter, <u>1.535</u> square inches total sectional area
Branch cables carrying	<u>14 1/2</u> Amperes, comprised of	<u>7</u> wires, each # <u>10</u>	<u>B & S</u> S.W.G. diameter, <u>.0568</u> square inches total sectional area
Branch cables carrying	<u>34</u> Amperes, comprised of	<u>7</u> wires, each # <u>8</u>	<u>B & S</u> S.W.G. diameter, <u>.04297</u> square inches total sectional area
Leads to lamps carrying	<u>6 1/4</u> Amperes, comprised of	<u>7</u> wires, each # <u>14</u>	<u>B & S</u> S.W.G. diameter, <u>.0224</u> square inches total sectional area
Cargo light cables carrying	<u>35</u> Amperes, comprised of	<u>7</u> wires, each # <u>6</u>	<u>B & S</u> S.W.G. diameter, <u>.0206</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber insulated, lead covered in accommodation spaces; rubber insulated, lead covered and braided steel wire armoured in Machinery spaces

Joints in cables, how made, insulated, and protected No joints, all connections in W.T. boxes & special terminal blocks.

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 None

How are the cables led through the ship, and how protected Securely clipped to bulkheads or metal casing & grounds.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes with exception of a short length under bridge deck.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *All lead covered*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered & armoured.*

What special protection has been provided for the cables near boiler casings *Lead covered*

What special protection has been provided for the cables in engine room *Lead covered and armoured.*

How are cables carried through beams *in lead washers* through bulkheads, &c. *Water tight glands.*

How are cables carried through decks *Through water tight deck gutters.*

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 *Lead covered & armoured. Steel shell casing in bunkers.*

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 *Special fixture with cast guards*

Where are the main switches and fuses for these lights fitted *On main switch board in engine room*

If in the spaces, how are they specially protected *✓*

Are any switches or fuses fitted in bunkers *Yes. 2 Water tight switches*

Cargo light cables, whether portable or permanently fixed *Portable from sockets & W.T. switches. 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*

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 *350* 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass *120 feet*

Distance between dynamo or electric motors and steering compass *100 feet*

The nearest cables to the compasses are as follows:— *No separate single lead or return wire near compasses.*

A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *✓*

The maximum deviation due to electric currents, etc., was found to be _____ degrees on _____ course in the case of standard compass and _____ degrees on _____ course in the case of the steering compass.

GENERAL REMARKS.

The compass is lighted by an electric lamp & wires are run and clipped together. The electric light installation on this vessel has been fitted in accordance with the rules and tried under full working conditions and found to be satisfactory.

It is submitted that this vessel is eligible for THE RECORD. FLEC. LIGHT

Committee's Minute

H. J. Alderson
Surveyor to Lloyd's Register of Shipping.



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