

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1553

Port of Montreal Date of First Survey June 10 Date of Last Survey Aug. 10/18 No. of Visits 10
 in on the ~~Iron or Steel~~ S.S. "WAR EARL" Port belonging to Montreal
 Book Built at Montreal, Que. By whom Canadian Vickers Ltd When built 1918
 ers Imperial Munitions Board Owners' Address Ottawa.
 No. 19 Electric Light Installation fitted by Canadian Vickers Ltd. When fitted 1918.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

10KW. direct coupled generating set of Vickers - Goldie McCulloch manufacture 525rps
Enclosed forced lubrication engine.

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

Where is Dynamo fixed On Engine Room Platform Whether single or double wire system is used Double

Position of Main Switch Board On Engine Room Platform 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 - 1 in E.R. 10 way double fuser - 1 in Officers pantry - 1 in Engineers pantry - 1 in Chart
house - 1 in crews quarters aft all ten way.

Are fuses fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits None and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes

Are all circuits in vessel 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 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.

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 157 arranged in the following groups :-

| | | |
|-----------------------------------|---|----------------------|
| <u>Eng & Boiler Room</u> | <u>40</u> lights each of <u>5-16cp. 2-32cp. 33-40</u> candle power requiring a total current of | <u>16.45</u> Amperes |
| <u>Forward Accom.</u> | <u>45</u> lights each of <u>3-15w. 8-25w. 34-40w</u> candle power requiring a total current of | <u>14.90</u> Amperes |
| <u>Navigating</u> | <u>20</u> lights each of <u>6-2.5cp. 2-5cp. 6-8cp</u> candle power requiring a total current of | <u>3.5</u> Amperes |
| <u>Aft Accommodation</u> | <u>21</u> lights each of <u>1-16cp. 5-25w. 15-40w</u> candle power requiring a total current of | <u>7.13</u> Amperes |
| <u>Galley & clusters</u> | lights each of <u>31-32cp.</u> candle power requiring a total current of | <u>32.42</u> Amperes |
| <u>1 Mast head light with</u> | <u>1</u> lamps each of <u>2.5</u> candle power requiring a total current of | <u>.08</u> Amperes |
| <u>2 Side light with</u> | <u>1</u> lamps each of <u>5.0</u> candle power requiring a total current of | <u>.35</u> Amperes |
| <u>5 Cargo lights of 5 lights</u> | <u>32</u> candle power, whether incandescent or arc lights <u>Incandescent</u> | |

For arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed In wheel chart house.

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>1.9855</u> square inches total sectional area |
| Branch cables carrying _____ Amperes, comprised of <u>7</u> wires, each # <u>10</u> <u>S.W.G.</u> diameter, <u>1.081</u> square inches total sectional area |
| Branch cables carrying _____ Amperes, comprised of <u>7</u> wires, each # <u>8</u> <u>S.W.G.</u> diameter, <u>1.097</u> square inches total sectional area |
| Leads to lamps carrying _____ Amperes, comprised of <u>7</u> wires, each # <u>14</u> <u>S.W.G.</u> diameter, <u>0.226</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>S.W.G.</u> diameter, <u>0.206</u> square inches total sectional area |

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered, rubber insulated in accommodation spaces and the same with braided steel wire armouring in machinery space

How are the joints in cables, how made, insulated, and protected No joints. All connections in cable light junction boxes on special terminal blocks

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 None.

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 Securely dipped to bulkheads or metal casing & grounds



DESCRIPTION OF INSULATION, PROTECTION, ETC. continued.

Are they in places always accessible *Yes with exception of 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 and 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 *Through lead bushes* through bulkheads, &c. *W. I. glands*

How are cables carried through decks *through W. T. deck tubes*

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 and armoured inside shut steel casings.*

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 fixtures with heavy C.I. guards*

Where are the main switches and fuses for these lights fitted *In main switch board in E.R.*

If in the spaces, how are they specially protected

Are any switches or fuses fitted in bunkers *Yes Two water tight switches enclosed in heavy boxes.*

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 *In 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 *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.

M. Miller
General Manager

Electrical Engineers

Date *19th August 18*

COMPASSES.

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

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

The nearest cables to the compasses are as follows:—

| 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 the standard compass and _____ degrees on _____ course in the case of the steering compass.

M. Miller
Builder's Signature

Builder's Signature

Date *19th August 18*

GENERAL REMARKS.

The compass is lighted by an electric lamp and wires are run as far as possible but are run and clipped together. The electric lighting installation on this vessel has been fitted in accordance with the rules. The workmanship and materials are good. It was tried under full working conditions and found to be satisfactory.

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

J. H. Alderson
19-10-18

Surveyor to Lloyd's Register of Shipping.

66,717-1/transfer

Committee's Minute

FRI. 4-OCT. 1918



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