

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 Mcbullock 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 feeder - 1 in Officers pantry - 1 in Engineers pantry - 1 in Chart

house - 1 in crew quarters at all ten way.

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 None and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes

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 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 :-

Eng & Boiler Room 40 lights each of 5-16cp. 2-32cp. 33-40 candle power requiring a total current of 16.45 Amperes

Forward Accom. 45 lights each of 3-15w. 8-25w. 34-40w candle power requiring a total current of 14.90 Amperes

Navigation 20 lights each of 6-25cp. 2-5cp. 6-8cp candle power requiring a total current of 3.5 Amperes

After Accommodation 21 lights each of 1-16cp. 5-25w. 15-40w candle power requiring a total current of 7.13 Amperes

Baggage & clusters lights each of 31-32cp. candle power requiring a total current of 32.42 Amperes

1 Mast head light with 1 lamps each of 2.5 candle power requiring a total current of .08 Amperes

2 Side light with 1 lamps each of 5.0 candle power requiring a total current of .35 Amperes

5 Cargo lights of 5 lights 32 candle power, whether incandescent or arc lights Incandescent

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

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

DESCRIPTION OF CABLES.

Main cable carrying 90-100 Amperes, comprised of 19 wires, each # 00 B&S S.W.G. diameter, 1.9855 square inches total sectional area

Branch cables carrying Amperes, comprised of 7 wires, each # 10 S.W.G. diameter, 1.081 square inches total sectional area

Branch cables carrying Amperes, comprised of 7 wires, each # 8 S.W.G. diameter, 1.0907 square inches total sectional area

Leads to lamps carrying Amperes, comprised of 7 wires, each # 14 S.W.G. diameter, 1.0226 square inches total sectional area

Cargo light cables carrying 35 Amperes, comprised of 7 wires, each # 6 S.W.G. diameter, 1.0206 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

Points in cables, how made, insulated, and protected No joints. All connections in tight right junction boxes

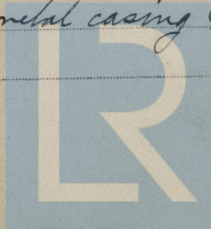
on special terminal blocks

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 clipped to bulkheads or metal casing & grounds



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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 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. J. 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. J. Miller
General Manager

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 from the compass 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.

Committee's Minute

FRI. 4-OCT. 1918



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