

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1372

Port of Halifax N.S. Date of First Survey Aug 30<sup>th</sup> 1921 Date of Last Survey Oct 20<sup>th</sup> 1921 No. of Visits 20  
 No. in Reg. Book on the Iron & Steel Se. Sr. Canadian Cruiser Port belonging to Halifax N.S.  
 Built at Halifax N.S. By whom Halifax Shipyards Ltd When built 1921  
 Owners Canadian Government Merchant Marine Co Owners' Address 220 St James St. Montreal. P.Q.  
 Yard No. 3 Electric Light Installation fitted by Halifax Shipyards Ltd When fitted 1921

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 4 pole compound wound, direct connected to reciprocating engines, dynamos made by Lawrence Scott, Norwich, Eng., and engines made by Bellis & Morcom, Birmingham, England.  
 Capacity of Dynamo 136 (each) Amperes at 110 (each) Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine room platform, star side. Whether single or double wire system is used double  
 Position of Main Switch Board engine room, store bulkhead (star) having switches to groups six of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each all circuits fixed, and controlled through section boxes and distribution boxes, with controlling switch and fuse to each circuit.

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 No wire fuses  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 350 arranged in the following groups:—

A	For <sup>d</sup> accomm.	82 lights each of	16	candle power requiring a total current of	41	Amperes
B	Aft "	86 lights each of	16	candle power requiring a total current of	43	Amperes
C	Cargo space " clusters	40 lights each of	16	candle power requiring a total current of	50	Amperes
D	Navigation	16 lights each of	5-6 32	candle power requiring a total current of	8	Amperes
E	Engine boiler spaces	61 lights each of	16	candle power requiring a total current of	30	Amperes
	2 Mast head light with	2 lamps each of	32	candle power requiring a total current of	6	Amperes
	2 Side light with	2 lamps each of	32	candle power requiring a total current of	6	Amperes
	100 Cargo lights of		16	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 Cell table indicator in wheel house

## DESCRIPTION OF CABLES.

Main cable carrying	150 Amperes, comprised of	single wires, each 2/0,	S.W.G. diameter, 133079	square inches total sectional area
Branch cables carrying	41 Amperes, comprised of	double " wires, each #2	66373	"
Branch cables carrying	43 Amperes, comprised of	" wires, each #4	41742	square inches total sectional area
Branch cables carrying	50 Amperes, comprised of	" wires, each #4	41742	"
Branch cables carrying	8 Amperes, comprised of	" wires, each #10	10381	square inches total sectional area
Leads to lamps carrying	30 Amperes, comprised of	" wires, each #6	26250	"
Leads to lamps carrying	30 Amperes, comprised of	" wires, each #4	4106	square inches total sectional area
Cargo light cables carrying	50 Amperes, comprised of	" wires, each #4	41742	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wires in machinery spaces, holds, and other exposed places are lead covered and armoured with wire braid, wires around main engines lead covered in conduit, and lead covered in cabins

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 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 Armoured cable led on Galv'd wire runways, all holes lead bushed, passing through deck pipes with W.T. glands.

**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 all lead covered and armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat armoured and lead covered in pipes

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, and around engines lead covered in pipes

How are cables carried through beams all holes lead lashed through bulkheads, &c. 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 Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Armoured cable, lead covered on metal 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 Special cargo fixtures with C.I. covers + stuffing glands

Where are the main switches and fuses for these lights fitted Section boxes from main switchboard in engine room

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 Permanently fixed in holds How fixed brass clips

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 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.

**HALIFAX SHIPYARDS, LIMITED.**

*J. F. Vaughan*  
Operating Manager.

Electrical Engineers Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 200 ft., and from wireless motor 50 ft

Distance between dynamo or electric motors and steering compass 185 ft., and from wireless motor 40 ft

The nearest cables to the compasses are as follows:—

A cable carrying <u>Tell tale</u>	<u>4</u> Amperes	<u>8</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying <u>Navigation log</u>	<u>8</u> Amperes	<u>10</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying <u>Wireless</u>	<u>30</u> Amperes	<u>35</u>	feet from standard compass	<u>30</u>	feet from steering compass

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

**HALIFAX SHIPYARDS, LIMITED.**

*J. F. Vaughan*  
Operating Manager.

Builder's Signature. Date

**GENERAL REMARKS.**

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

It is submitted that this vessel is eligible for

THE RECORD.

Elec. Light

*L. G. Mason*

29/12/21. Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

