

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1372

Port of *Halifax N.S.* Date of First Survey *Aug 30th 1921* Date of Last Survey *Oct 20th 1921* No. of Visits *20*
 No. in Reg. Book *on the Iron & Steel* *Se. Lt. 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 accommodation	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	40 lights each of	16	candle power requiring a total current of	50	Amperes
C "clusters	60 lights each of	16	candle power requiring a total current of	8	Amperes
D Navigation	16 lights each of	5-6 32	candle power requiring a total current of	30	Amperes
E Engine boiler spaces	61 lights each of	16	candle power requiring a total current of	6	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 tale indicator in wheel house*

DESCRIPTION OF CABLES.

Main cable carrying	150 Amperes, comprised of	single wires, each $\frac{1}{16}$	S.W.G. diameter, 133079	square inches total sectional area
Branch cables carrying	41 Amperes, comprised of	double wires, each $\frac{1}{8}$	S.W.G. diameter, 66373	square inches total sectional area
Branch cables carrying	43 Amperes, comprised of	" wires, each $\frac{1}{4}$	S.W.G. diameter, 41742	square inches total sectional area
Branch cables carrying	50 Amperes, comprised of	" wires, each $\frac{1}{4}$	S.W.G. diameter, 41742	square inches total sectional area
Leads to lamps carrying	8 Amperes, comprised of	" wires, each $\frac{1}{10}$	S.W.G. diameter, 10381	square inches total sectional area
Leads to lamps carrying	30 Amperes, comprised of	" wires, each $\frac{1}{6}$	S.W.G. diameter, 26250	square inches total sectional area
Cargo light cables carrying	50 Amperes, comprised of	" wires, each $\frac{1}{4}$	S.W.G. diameter, 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 Galb'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.

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:—

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

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.

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. J. Mason.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.