

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1394

Port of *Halifax N.S.* Date of First Survey *Oct 12, 1921*. Date of Last Survey *July 20, 1922* No. of Visits *22*  
 No. in Reg. Book *6790* on the ~~Iron~~ *Steel* *Co. Sr. Canadian Constructor* Port belonging to *Halifax N.S.*  
 Built at *Halifax N.S.* By whom *Halifax Shipyards Ltd* When built *1922*  
 Owners *Canadian Government (Merchant Marine Co)* Owners' Address *230 St James St. Montreal P.Q.*  
 Yard No. *4* Electric Light Installation fitted by *Halifax Shipyards Ltd* When fitted *1922*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Saw 4 pole Compound wound, direct connected to reciprocating engines, dynamos made by Deane & Sest, Norwich, Eng. and engines made by Belliss & 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 star bulkhead (steel)* 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 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:—

Group	Description	Quantity	Each	Total	Notes
A	Fore Acc.	82	lights each of 16	1312	candle power requiring a total current of 41 Amperes
B	Aft "	86	lights each of 16	1376	candle power requiring a total current of 43 Amperes
C	Cargo space	40	lights each of 16	640	candle power requiring a total current of 50 Amperes
D	Navigation	16	lights each of 56-32	896	candle power requiring a total current of 8 Amperes
E	E. & B. rooms	61	lights each of 16	976	candle power requiring a total current of 30 Amperes
2	Mast head light with	2	lamps each of 32	64	candle power requiring a total current of 6 Amperes
2	Side light with	2	lamps each of 32	64	candle power requiring a total current of 6 Amperes
100	Cargo lights of	16		1600	candle power, whether incandescent or arc lights <i>Incandescent</i>

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

Where are the switches controlling the masthead and side lights placed *Self late indicator in wheel house*

## DESCRIPTION OF CABLES.

Description	Amperes	Wires	Wire Size	S.W.G. diameter	Area
Main cable carrying	150	single	2/0	133079	square inches total sectional area
Branch cables carrying	41	double	#2	66373	square inches total sectional area
Branch cables carrying	43	double	#4	41742	square inches total sectional area
Branch cables carrying	50	"	#4	41742	square inches total sectional area
Branch cables carrying	8	"	#10	10381	square inches total sectional area
Leads to lamps carrying	30	"	#6	26250	square inches total sectional area
Leads to lamps carrying	30	"	#4	4106	square inches total sectional area
Cargo light cables carrying	50	"	#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 contact, and in cabins lead covered*

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 *✓* Are all joints in accessible positions, none being made in bunks, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage *✓*

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 galvanized iron runways, all holes through beams lead backed, passing through decks, pipes with W.T. flange.*



**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 backed 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, coats, or baggage Yes

If so, how are the lamp fittings and cable terminals specially protected special cargo fixtures with C.I. covers and 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 Buss clips

In cessels 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 to 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 Feb 10<sup>th</sup> 1922

**COMPASSES.**

Distance between dynamo or electric motor 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>Bell tele</u>	<u>4</u> Amperes	<u>8</u> feet from standard compass	<u>6</u> feet from steering compass
A cable carrying <u>Navigation box</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.**

Builder's Signature.

Date Feb 10<sup>th</sup> 1922

**GENERAL REMARKS.**

J. F. [Signature] Operating Manager.

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 full working conditions with satisfactory results.

It is submitted that

THE RECORD. Elec. Light. J. Moon.  
L.S. 8/3/22. [Signature]

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 10 MAR 1922

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

2m, 11, 16—Transfer.



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