

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1330

Port of *Halifax N.S.* Date of First Survey *Dec 17th 1920* Date of Last Survey *Feb 25th 1921* No. of Visits *24*
 No. in on the ~~Iron~~ Steel *Le St. Canadian Explorer* Port belonging to *Montreal*
 Reg. Book *53793* Built at *Halifax N.S.* By whom *Halifax Shipyards Ltd* When built *1921*
 Owners *Canadian Government Merchant Marine Ltd* Owners' Address *230 St James St. Montreal P.Q.*
 Yard No. *2* Electric Light Installation fitted by *Halifax Shipyards Ltd* When fitted *1921*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

4 pole, Compound wound, direct connected to reciprocating engine made by W.H. Allen, Redford, England

Capacity of Dynamo *120* Amperes at *100/110* Volts, whether continuous or alternating current *Continuous*
 Where is Dynamo fixed *Engine room platform (star?)* Whether single or double wire system is used *Double*
 Position of Main Switch Board *Engine room store bulkhead (steel) having switches to groups* *Seven* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *No auxiliary boards, all circuits fused and controlled from main switchboard, with controlling switch and fuse for each circuit, direct circuit-leads*

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 *152* arranged in the following groups:—

A Machinery space	40	lights each of	40 Watts	candle power requiring a total current of	20	Amperes
B Accommodation	56	lights each of	40 "	candle power requiring a total current of	28	Amperes
C Poop	32	lights each of	40 "	candle power requiring a total current of	16	Amperes
D Forecastle	8	lights each of	40 "	candle power requiring a total current of	4	Amperes
E Navigation	16	lights each of	40 "	candle power requiring a total current of	8	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
5 Cargo lights of	192			candle power, whether incandescent or are lights	incandescent	

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

Where are the switches controlling the masthead and side lights placed *Tell tale indicator, wheel house*

DESCRIPTION OF CABLES.

Main cable carrying	120	Amperes, comprised of	single wires, each	00	B+S	Var. nbs.
					S.W.G. diameter,	133079 square inches total sectional area
Branch cables carrying	20	Amperes, comprised of	Lead wires, each	# 6	S.W.G. diameter,	26250 square inches total sectional area
Branch cables carrying	16	Amperes, comprised of	" wires, each	# 8	S.W.G. diameter,	16509 square inches total sectional area
Leads to lamps carrying		Amperes, comprised of	" wires, each	# 14	S.W.G. diameter,	4106 square inches total sectional area
Cargo light cables carrying	16	Amperes, comprised of	" wires, each	# 6	S.W.G. diameter,	26250 square inches total sectional area
	24		" wires, each	# 8	Marconi	16509

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wire in machinery spaces, holds, and other exposed places are lead covered and armoured with wire braid, and in cabins with lead covered wire

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 iron runways, all holes through beams lead bushed, passing through deck pipes with WT 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 sheathed.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured cable*

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*

How are cables carried through beams *all holes lead backed* through bulkheads, &c. *water tight glands*

How are cables carried through decks *deck pipes with W.T. glands*

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 *armoured cables, lead covered, on metal runways and wood 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 cargo fixtures with C.I. covers and stuffing glands*

Where are the main switches and fuses for these lights fitted *main switchboard, 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 fitted in holds* How fixed *Bress 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 *March 15th 1921.*

COMPASSES.

Distance between dynamo or electric motors and *Operating Manager* *120 ft. and from wireless motor 50 ft.*

Distance between dynamo or electric motors and steering compass *125 ft. " " " " 55 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>10</i>	<i>8</i>	<i>10</i>	
<i>24</i>	<i>24</i>	<i>28</i>	

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 *March 15th 1921*

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

Robt 12/4/21

Shoon.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. APR. 15 1921*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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