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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2264

Port of *Halifax, N.S.* Date of First Survey *May 13th* Date of Last Survey *June 24th* No. of Visits *8*
 No. in Reg. Book *on the Iron or Steel Hired diesel Ferry "Maneco"* Port belonging to *Lancaster N.S.*
 Built at *Malone Bay, N.S.* By whom *J. Ernst & Son, Ltd.* When built *1931*
 Owners *Bell Isle Steamship Co. Ltd.* Owners' Address *St John's Newfoundland*
 Yard No. *20* Electric Light Installation fitted by *Halifax Shipyards, Ltd.* When fitted *1931*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 direct current, shaft mounted generator 2 3/4 kwts., 76.5 Amprs., 36 Volts, direct connected to 8 H.P. crude oil engine, size 5" x 6 1/4", storage batteries 20 amp. hrs., 32 volts
 Capacity of Dynamo *76.5* Amperes at *36* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *Engine room* Whether single or double wire system is used *double*
 Position of Main Switch Board *Inward bulkhead in engine room* having switches to groups *5* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *1. Inward engine room bulkhead with 4 switches*

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 *25* 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 *Yes*

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases *Yes*

Total number of lights provided for *48* arranged in the following groups:—

A	<i>File + engine room</i>	<i>16</i> lights each of	<i>25 Watt</i>	candle power requiring a total current of	<i>12</i>	Amperes
B	<i>Gift accommodation</i>	<i>14</i> lights each of	" "	candle power requiring a total current of	<i>11</i>	Amperes
C	<i>Midship accommodation</i>	<i>7</i> lights each of	" "	candle power requiring a total current of	<i>5 1/4</i>	Amperes
D	<i>Wheel house</i>	<i>4</i> lights each of	" "	candle power requiring a total current of	<i>1</i>	Amperes
E	<i>Search light</i>	lights each of	<i>300</i>	candle power requiring a total current of	<i>9</i>	Amperes
1	<i>Mast head light with</i>	<i>1</i> lamps each of	<i>25</i>	candle power requiring a total current of	<i>3/4</i>	Amperes
2	<i>Side light with</i>	<i>1</i> lamps each of	<i>25</i>	candle power requiring a total current of	<i>1 1/2</i>	Amperes
1	<i>skm Cargo lights of</i>		<i>25</i>	candle power, whether incandescent or arc lights	<i>3/4</i>	"

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

Where are the switches controlling the masthead and side lights placed *Wheel house*

DESCRIPTION OF CABLES.

Main cable carrying	<i>80</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>5-2634</i>	<i>Circ mils</i>	S.W.G. diameter,	<i>.041</i>	square inches total sectional area
Branch cables carrying	<i>9</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>65-29</i>	<i>Circ mils</i>	S.W.G. diameter,	<i>.005</i>	square inches total sectional area
Branch cables carrying	<i>9</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>10381</i>	<i>Circ mils</i>	S.W.G. diameter,	<i>.008</i>	square inches total sectional area
Leads to lamps carrying	<i>6</i>	Amperes, comprised of	<i>3</i>	wires, each	<i>25-83</i>	<i>Circ mils</i>	S.W.G. diameter,	<i>.002</i>	square inches total sectional area
Cargo light cables carrying		Amperes, comprised of		wires, each			S.W.G. diameter,		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

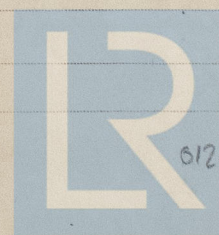
Wires protected with rubber and lead covered

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 bunkers, 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 *Through pipes and RT glands*



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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 *Lead covered*

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

What special protection has been provided for the cables near boiler casings *✓*

What special protection has been provided for the cables in engine room *Armoured cable*

How are cables carried through beams *None* through bulkheads, &c. *through pipes*

How are cables carried through decks *through deck tubes and HT glands*

Are any cables run through coal bunkers *No* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected *Cables protected with rubber and lead covered, in pipes*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *2 in hold*

If so, how are the lamp fittings and cable terminals specially protected *Gas proof fittings*

Where are the main switches and fuses for these lights fitted *Forecastle*

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* How fixed *In deck*

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 both switchboards*

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.

Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *25 ft*

Distance between dynamo or electric motors and steering compass *25 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>9</i>	<i>6</i>	<i>6</i>	
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 *Yes*

The maximum deviation due to electric currents, etc., was found to be *No* degrees on course in the case of the standard compass and *No* degrees on course in the case of the steering compass.

HALIFAX SHIPYARDS LIMITED

Builder's Signature. Date *July 3rd 1931.*

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for THE RECORD

Elec. Light *22/7/31*

Y. Moon.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. Light

TUE. 18 AUG 1931.



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