

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of *Port Arthur, Ont.* Date of First Survey \_\_\_\_\_ Date of Last Survey \_\_\_\_\_ No. of Visits \_\_\_\_\_  
 No. in Reg. Book \_\_\_\_\_ on the *Iron or Steel* *Single Screw Steamer* *War. Kormorant* Port belonging to *Port Arthur, Ontario*  
 Built at *Port Arthur, Ont.* By whom *Port Arthur Shipbldg Co.* When built *1918*  
 Owners *Imperial Munitions Board* Owners' Address *Ottawa, Ont.*  
 Yard No. \_\_\_\_\_ Electric Light Installation fitted by *Port Arthur Shipbldg Co.* When fitted *1918*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Generator built by Enberg's Electrical & Mechanical Works, St. Joseph, Mich. U.S.*  
*direct connected to Simplex Engine built by same company.*

Capacity of Dynamo *65* Amperes at *115* 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 *Engine room* having switches to groups *fifteen* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Port & starboard side cabins, Forward & after cabins, deck fore and aft Engine & Boiler rooms, comprising 8 circuits. Wireless one.*

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

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

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

Total number of lights provided for *162* arranged in the following groups:—

A Forward cabin	6 lights each of	60 watts	candle power requiring a total current of	3 Amperes
B Deck lights	16 lights each of	"	candle power requiring a total current of	8 Amperes
C Port Cabin	41 lights each of	"	candle power requiring a total current of	20.5 Amperes
D Starboard "	24 lights each of	"	candle power requiring a total current of	13.5 Amperes
E After Cabin	24 lights each of	"	candle power requiring a total current of	12.00 Amperes
1 Mast head light with	2 lamps each of	120 "	candle power requiring a total current of	17.5 Amperes
1 Stem light	2 "	"	"	2.0
2 Side light with	2 lamps each of	"	candle power requiring a total current of	2.0 Amperes

*4 clusters* Cargo lights of 4 lights each 60 watts 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 *Telltale in Pilot House*

## DESCRIPTION OF CABLES.

Main cable carrying	90 Amperes, comprised of	7 wires, each #10	B & S. S.W.G. diameter, 66370	square inches total sectional area
Branch cables carrying	20 Amperes, comprised of	2 wires, each #10	S.W.G. diameter, 10380	square inches total sectional area
Branch cables carrying	20 Amperes, comprised of	2 wires, each #10	S.W.G. diameter, 10380	square inches total sectional area
Leads to lamps carrying	1 Amperes, comprised of	2 wires, each #14	S.W.G. diameter, 4107	square inches total sectional area
Cargo light cables carrying	4 Amperes, comprised of	2 wires, each #14	S.W.G. diameter, 4107	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

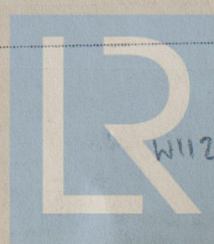
*Vulcanized rubber, double braided, led thru galvanized iron conduit*  
*In cabins in wood mouldings. All cables to specifications & tests of the*  
*National Board of Fire Underwriters.*

Joints in cables, how made, insulated, and protected *Soldered, rubbered and friction taped,*  
*in iron boxes where iron conduit is used.*

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 *galvanized iron conduit.*



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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 *conduits and watertight fittings*

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

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

What special protection has been provided for the cables in engine room *Iron conduits*

How are cables carried through beams *in conduits* through bulkheads, &c. *W. T. conduits*

How are cables carried through decks *in conduits with watertight fittings*

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

If so, how are they protected *galvanized steel conduit W.T. screwed to beams*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No*

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

Where are the main switches and fuses for these lights fitted

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 *portable* How fixed

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 *switch board*

**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 \_\_\_\_\_ 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.

Port Arthur Shipbuilding Co. Limited.

Electrical Engineers

Date *1918*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *About 45 feet*

Distance between dynamo or electric motors and steering compass *35 "*

The nearest cables to the compasses are as follows:—

Cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>1/2 "</i>	<i>8</i>	<i>8</i>	<i>8</i>
<i>4</i>	<i>8</i>	<i>6</i>	<i>6</i>

Have the compasses been adjusted with and without the electric installation at work at full power

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.

Port Arthur Shipbuilding Co. Limited.

Builder's Signature.

Date

**GENERAL REMARKS.**

*The above installation has been fitted in a satisfactory manner and proved satisfactory under test.*

*It is understood that a search light and wireless will be fitted at a later date.*

*It is submitted that this vessel is eligible for THE RECORD. Elec. light.*

*J.H.D.*  
*107/1/19*

*J. Mac. G. K. K. K.*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 10 JAN. 1919