

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 545

Port of *Portland Ore* Date of First Survey *Nov. 21 '18* Date of Last Survey *Jan. 2 '19* No. of Visits *4*
 No. in Reg. Book *on the Iron or Steel SS WEST COBALT* Port belonging to *Portland Oregon*
 Built at *Portland Ore* By whom *Columbia River Ship Building Co.* When built *1918*
 Owners *U.S. Emergency Fleet Corporation* Owners' Address
 Yard No. *11* Electric Light Installation fitted by *Cte Page McKenny Co.* When fitted *1918*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 10 KW. 115 Volt Generator Sets by the Westinghouse Electric Co. Coupled direct to two Kerr Turbines.

Capacity of Dynamo *80 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 *seven* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Chart Hs. 6, Poop Dk. Hs. 6, Brass Dk. 6, After Dk. Hs. 6, Fore Dk. Hs. 6+8, Midship Dk. Hs. 6, Engine Room 10.*

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-oxidisable metal *yes* and constructed to fuse at an excess of *10* 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 *yes*

Total number of lights provided for *300* arranged in the following groups:—

A	<i>9</i> lights each of <i>40 W 32</i> candle power requiring a total current of <i>3</i> Amperes
B	<i>54</i> lights each of <i>40 W 32</i> candle power requiring a total current of <i>16</i> Amperes
C	<i>57</i> lights each of <i>40 W 32</i> candle power requiring a total current of <i>14</i> Amperes
D	<i>38</i> lights each of <i>40 W 32</i> candle power requiring a total current of <i>13</i> Amperes
E	<i>46</i> lights each of <i>40 W 32</i> candle power requiring a total current of <i>15</i> Amperes
1	Mast head light with <i>1</i> lamps each of <i>40 W 32</i> candle power requiring a total current of <i>32</i> Amperes
2	Side light with <i>1</i> lamps each of <i>40 W 32</i> candle power requiring a total current of <i>64</i> Amperes
<i>1180</i>	Cargo lights of <i>40 W 32</i> 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 *in Chart House*

DESCRIPTION OF CABLES.

Main cable carrying	<i>150</i> Amperes, comprised of	<i>19</i> wires, each	<i>9</i> S.W.G. diameter,	<i>21,600</i> square inches total sectional area	<i>14,000</i> C.M.				
Branch cables carrying	<i>21</i> Amperes, comprised of	<i>1</i> wires, each	<i>10</i> S.W.G. diameter,	<i>10,350</i> square inches total sectional area	<i>10,600</i>				
Branch cables carrying	<i>32</i> Amperes, comprised of	<i>4</i> wires, each	<i>16</i> S.W.G. diameter,	<i>16,570</i> square inches total sectional area	<i>13,200</i>				
Leads to lamps carrying	<i>4</i> Amperes, comprised of	<i>1</i> wires, each	<i>14</i> S.W.G. diameter,	<i>4,104</i> square inches total sectional area	<i>4,096</i>				
Cargo light cables carrying	<i>2</i> Amperes, comprised of	<i>40</i> wires, each	<i>32</i> S.W.G. diameter,	<i>4,106</i> square inches total sectional area	<i>2,160</i>				

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber covered, double braided, National Electric Code Standard.

Joints in cables, how made, insulated, and protected *Spliced soldered and taped. Splicing Compound, friction tape and P.B. electric paint.*

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 *Metal conduits or wood casings.*



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 Metal conduits

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

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

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

How are cables carried through beams Metal conduits through bulkheads, &c. Metal conduits

How are cables carried through decks Metal conduits, joints, nuts & washers

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 Metal conduits

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 watertight fittings

Where are the main switches and fuses for these lights fitted in houses in bridge deck

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 Engine Room

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 1000 megohms per 1000 ft. 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.

McPage-McKenney Co. R. C. Kenney Mgr. Electrical Engineers

Date Jan 24, 1919

COMPASSES.

Distance between dynamo or electric motors and standard compass 45 ft.

Distance between dynamo or electric motors and steering compass 45 ft.

The nearest cables to the compasses are as follows:—

Cable Carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	10	12	20
A cable carrying	25	25	16
A cable carrying	—	—	—

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 nil degrees on — course in the case of the standard compass and nil degrees on — course in the case of the steering compass.

Columbia River Ship Building Corporation

Builder's Signature.

Date Jan 24, 1919

GENERAL REMARKS.

The above installation has been made in accordance with the Rules. The material and workmanship are good.

It is submitted that this vessel is eligible for THE RECORD. ELEC LIGHT.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. Lt

JK
24/1/19



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.