

Rpt. 13.

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## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 578

Port of Portland, Oregon Date of First Survey Aug. 21 Date of Last Survey Sept. 26 No. of Visits 14  
No. in Reg. Book on the ~~Steel~~ Steamer "WEST RARITANS" Port belonging to Portland, Oregon  
Built at Portland, Oregon By whom Northwest Steel Company When built 1919  
Owners Emergency Fleet Corporation Owners' Address Portland, Oregon  
Yard No. 33 Electric Light Installation fitted by Ne Page McKenny Co. When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 15 K. W. Generator Sets, coupled to two marine type single cylinder engines by the General Electric Company

Capacity of Dynamo 136 Amperes at 110 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 Ho. 6, Poop Deck Qrs. 6, Crew's Qrs. 6, After Deck Qrs. 6, Fwd. Deck Ho. 6 & 8, Midship Qrs. 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

Are the fuses of non-oxidizable 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 Yes

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	9	lights each of	40 W 32	candle power requiring a total current of	3	Amperes
B	54	lights each of	40 W 32	candle power requiring a total current of	16	Amperes
C	51	lights each of	40 W 32	candle power requiring a total current of	14	Amperes
D	38	lights each of	40 W 32	candle power requiring a total current of	13	Amperes
E	46	lights each of	40 W 32	candle power requiring a total current of	15	Amperes
1	Mast head light with 1 lamps each of	40 W 32	candle power requiring a total current of	32	Amperes	
2	Side light with 1 lamps each of	40 W 32	candle power requiring a total current of	64	Amperes	
80	Cargo lights of	40 W 32	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 In Chart House

## DESCRIPTION OF CABLES.

Main cable carrying	150	Amperes, comprised of	19	wires, each	9	S.W.G. diameter,	211.600	<del>square inches</del> total sectional area
Branch cables carrying	21	Amperes, comprised of	1	wires, each	10	S.W.G. diameter,	10.380	<del>square inches</del> total sectional area
Branch cables carrying	32	Amperes, comprised of	7	wires, each	16	S.W.G. diameter,	16.510	<del>square inches</del> total sectional area
Leads to lamps carrying	4	Amperes, comprised of	1	wires, each	14	S.W.G. diameter,	4.107	<del>square inches</del> total sectional area
Cargo light cables carrying	2	Amperes, comprised of	40	wires, each	32	S.W.G. diameter,	4.106	<del>square inches</del> total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

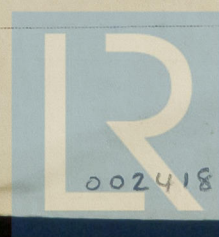
Rubber covered, double braided, National Electric Code Standard.

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

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.



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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 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 and nuts.

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 Gas-tight 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 Gas-tight fittings

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 feet 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-McKenny & Co. Electrical Engineers Date Nov. 17, 1919  
R. C. McKenny Mgr.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 75 ft.

Distance between dynamo or electric motors and steering compass 75 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>10</u>	Amperes	<u>12</u>	feet from standard compass	<u>20</u>	feet from steering compass
A cable carrying	<u>25</u>	Amperes	<u>25</u>	feet from standard compass	<u>16</u>	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 N 11 degrees on standard compass and degrees on course in the case of the steering compass.

D. Merrill Mgr. Builder's Signature. Date Nov. 17, 1919  
Northwest Steel Co.

**GENERAL REMARKS.**

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

It is submitted that  
this vessel is eligible for  
**THE RECORD.** ELEC. LIGHT. 18/12/19

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec Lt



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