

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 579

of Seattle Wash USA Date of First Survey Dec 7-1917 Date of Last Survey Feb 26-1918 No. of Visits 10
 on the ~~Steel~~ Screw Steamer "WEST ARROW" Port belonging to Seattle
 Built at Seattle By whom Skinner & Eddy Corporation When built 1918
US Shipping Board Emergency Fleet Corporation Owners' Address, United States
 No. 12 Electric Light Installation fitted by Skinner & Eddy Corporation When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

15 KW-125 Volts. General Electric Co. Compound wound Generators, direct connected
Single cylinder reciprocating engines
 Capacity of Dynamo 125 Amperes at 125 Volts, whether continuous or alternating current D.C.
 Is Dynamo fixed Engine Room platform Whether single or double wire system is used Double
 Location of Main Switch Board Engine Room platform having switches to groups A B C D E of lights, &c., as below
 Locations of auxiliary switch boards and numbers of switches on each One in front of pilot house 6 switches - Two in port
passage of forward deck house 6 switches - One in port passage of midship house 4 & 6 switches -
One in passage way of crew's quarters 6 switches - One in engine room 8 switches - One in starboard
passage way in fore castle 6 switches
 Are switches 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
 Is wiring on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes
 Are 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 yes
 Number of lights provided for 311 arranged in the following groups:-

<u>37</u>	lights each of	<u>40 Watts</u>	candle power requiring a total current of	<u>11.84</u>	Amperes
<u>33</u>	lights each of	<u>40 "</u>	candle power requiring a total current of	<u>10.58</u>	Amperes
<u>65</u>	lights each of	<u>40 "</u>	candle power requiring a total current of	<u>22.40</u>	Amperes
<u>27</u>	lights each of	<u>40 "</u>	candle power requiring a total current of	<u>8.64</u>	Amperes
<u>19</u>	lights each of	<u>40 "</u>	candle power requiring a total current of	<u>4.5</u>	Amperes
Mast head light with	<u>1</u> lamps each of	<u>40 "</u>	candle power requiring a total current of	<u>0.32</u>	Amperes
Side light with	<u>1</u> lamps each of	<u>40 "</u>	candle power requiring a total current of	<u>0.64</u>	Amperes
<u>8</u>	Cargo lights of	<u>4-40 Watts</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

lights, what protection is provided against fire, sparks, &c.

Are the switches controlling the masthead and side lights placed Wheel house front of chart room

DESCRIPTION OF CABLES.

able carrying 176 Amperes, comprised of 27 wires, each 11 B.S.G. diameter, 211.600 square inches total sectional area
 cables carrying 50 Amperes, comprised of 7 wires, each 14 B.S.G. diameter, 26.250 square inches total sectional area
 cables carrying 30 Amperes, comprised of 7 wires, each 16 B.S.G. diameter, 16.510 square inches total sectional area
 lamps carrying 2.56 Amperes, comprised of 1 wires, each 14 B.S.G. diameter, 4.096 square inches total sectional area
 light cables carrying 4.11 Amperes, comprised of 1 wires, each 14 B.S.G. diameter, 4.096 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

National Electric Code Standard Double Braid
 Are cables, how made, insulated, and protected Soldered, taped with splicing compound, friction tape, and
primed with P & B Electric paint

Are 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 no
 Are any joints in or branches from the cable leading from dynamo to main switch board no

Are the cables led through the ship, and how protected In conduit pipes and mouldings



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *No*

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. *Conduits & stuffing boxes*

How are cables carried through decks *Conduits*

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 *wooden boxes and 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 *Water tight switches and receptacles*

Where are the main switches and fuses for these lights fitted *In houses on upper deck*

If in the spaces, how are they specially protected *all in conduits*

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 *on 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.

C. H. McCallum

Electrical Engineers

Date *April 4-1918*

COMPASSES.

Distance between dynamo or electric motors and standard compass *19 feet*

Distance between dynamo or electric motors and steering compass *12 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>32</i>	<i>Two</i>	<i>one</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 *Nil* degrees on *Various* course in the case of the standard compass and *Nil* degrees on *Various* course in the case of the steering compass.

Stinner & Eddy Corporation
by C. H. McCallum, Ch. Eng.

Builder's Signature.

Date *April 4-1918*

GENERAL REMARKS.

The Electric lighting installation of good quality and workmanship, tested under working conditions and found satisfactory. Eligible, in my opinion, to be noted in the Register Book

It is submitted that

this vessel is eligible for

THE RECORD Elec. light.

J. W. D. 14/5/18.

James Fowler
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *Elec. Light*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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