

TUE JAN. 20. 1914

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1649

Port of *Baltimore Md* Date of First Survey *20th Oct 1913* Date of Last Survey *2nd Jan 1914* No. of Visits *22*
 No. in *18* on the *Iron or Steel* *S. S. "Washingtonian"* Port belonging to *New York*
 Reg. Book *18 Supp.* Built at *Sparrows Pt. Md* By whom *Maryland Steel Co* When built *1914*
 Owners *American-Hawaiian S.S. Co.* Owners' Address *8 Bridge Street, New York*
 Yard No. *131* Electric Light Installation fitted by *Maryland Steel Co* When fitted *1914*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two generating sets of equal capacity rated at 20 K.W. Direct coupled to engines each 9" x 7" x 360 Revs.

Capacity of Dynamo *182* Amperes at *110* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *Engine Room driving platform* Whether single or double wire system is used *Double*

Position of Main Switch Board *Near Dynamo* having switches to groups *Four* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Lower Engine Room - 8 Upper Engine Room - 8, After Quarters - 4, Forward Quarters - 4*

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits *Yes*

Are the cut outs of non-oxidizable metal *Yes* and constructed to fuse at an excess of *50%* per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases *Yes*

Total number of lights provided for *210* arranged in the following groups:—

A	<i>71</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>35½</i>	Amperes
B	<i>27</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>13½</i>	Amperes
C	<i>29</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>14½</i>	Amperes
D	<i>24 Cargo</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>12</i>	Amperes
E	<i>30</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>15</i>	Amperes
<i>2</i>	<i>Mast head light with</i>	<i>2</i> lamps each of	<i>16</i>	candle power requiring a total current of	<i>2</i>	Amperes
<i>2</i>	<i>Side light with</i>	<i>2</i> lamps each of	<i>16</i>	candle power requiring a total current of	<i>2</i>	Amperes

54 Cargo lights of *16* candle power, whether incandescent or arc lights *incandescent*
Also machine shop motor & 2 ventilating fans for holds

If arc lights, what protection is provided against fire, sparks, &c. *Searchlight by casing. Riding lights by watertight-globes*

Where are the switches controlling the masthead and side lights placed *In Pilot house.*

DESCRIPTION OF CABLES.

Main cable carrying	<i>166</i>	Amperes, comprised of	<i>19</i> wires, each	<i>12</i>	L.S.G. diameter, .	<i>16619</i> square inches total sectional area
Branch cables carrying	<i>35½</i>	Amperes, comprised of	<i>7</i> wires, each	<i>15</i>	L.S.G. diameter, .	<i>1028</i> square inches total sectional area
Branch cables carrying	<i>13½</i>	Amperes, comprised of	<i>7</i> wires, each	<i>16</i>	L.S.G. diameter, .	<i>1022</i> square inches total sectional area
Leads to lamps carrying	<i>6</i>	Amperes, comprised of	<i>1</i> wires, each	<i>16</i>	L.S.G. diameter, .	<i>0032</i> square inches total sectional area
Cargo light cables carrying	<i>3</i>	Amperes, comprised of	<i>19</i> wires, each	<i>21</i>	L.S.G. diameter, .	<i>1004</i> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulation of wiring as required by Rules of this Society. All wires led through enamel lined iron conduits with metal junction boxes. All conduits watertight. Wires in cabins & other accommodation in wood. Joints in cables, how made, insulated, and protected. Spliced & soldered. Covered with pure gum tape & bound with waterproof tape, in brass junction boxes with brass covers.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *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 *None in bunkers some in cargo spaces.*

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 *In iron conduits.*



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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 *In iron conduits*

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

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

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

How are cables carried through beams *In iron conduits* through bulkheads, &c. *Delto with glands.*

How are cables carried through decks *" " " with stuffing boxes.*

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 *In iron 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 metal junction, fuse & lamp boxes.*

Where are the main switches and cut outs for these lights fitted *In engine room & in lamp boxes.*

If in the spaces, how are they specially protected *Metal boxes & metal covers.*

Are any switches or cut outs 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 *✓*

The installation is supplied with a voltmeter and *for each dynamo an amperemeter, fixed on main switch board.*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas *✓*

Are any switches, cut outs, 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 *98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile after 24 hours' immersion in seawater.

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.

Maryland Steel Company
by S. Anderson
Superintendent

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *60 ft.*

Distance between dynamo or electric motors and steering compass *60 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>20</i>	<i>5</i>	<i>5</i>	<i>5</i>
<i>1/2</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>2</i>	<i>6</i>	<i>6</i>	<i>6</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 *No* degrees on *✓* course in the case of the standard compass and *No* degrees on *✓* course in the case of the steering compass.

Maryland Steel Company
by S. Anderson
Superintendent

Builder's Signature.

Date

GENERAL REMARKS.

This installation has been fitted in an efficient manner. The materials & workmanship are good. The Dynamos have been run under full load & worked satisfactorily. Side & masthead lights tested. It is submitted that this vessel is eligible for

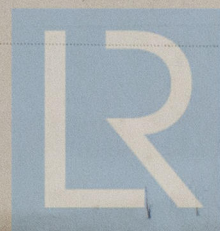
THE RECORD. Elec. Light.

J.W.D. 995
20/1/14

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute *FRI. FEB. 13. 1914*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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