

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1649

Port of Baltimore Md Date of First Survey 20<sup>th</sup> Oct 1913 Date of Last Survey 2<sup>nd</sup> Jan 1914 No. of Visits 22No. in 18 on the Iron or Steel S. S. "Washingtonian" Port belonging to New YorkReg. Book 18 Supp. Built at Sparrows Pt. Md By whom Maryland Steel Co When built 1914Owners American-Hawaiian S.S. Co. Owners' Address 8 Bridge Street, New YorkYard 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 ContinuousWhere is Dynamo fixed Engine Room driving platform Whether single or double wire system is used DoublePosition of Main Switch Board Near Dynamo having switches to groups Four of lights, &c., as belowPositions of auxiliary switch boards and numbers of switches on each Lower Engine Room - 8 Upper Engine Room - 8, After Quarters - 4, Forward Quarters - 4If 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 YesIf 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 YesAre the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 50% per cent over the normal currentAre 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 YesAre all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases YesTotal number of lights provided for 210 arranged in the following groups:—

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

54 Cargo lights of 16 candle power, whether incandescent or arc lights incandescentAlso 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 globesWhere are the switches controlling the masthead and side lights placed In Pilot house.

## DESCRIPTION OF CABLES.

Main cable carrying 166 Amperes, comprised of 19 wires, each 12 L.S.G. diameter, .16619 square inches total sectional areaBranch cables carrying 35½ Amperes, comprised of 7 wires, each 15 L.S.G. diameter, .028 square inches total sectional areaBranch cables carrying 13½ Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022 square inches total sectional areaLeads to lamps carrying 6 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .0032 square inches total sectional areaCargo light cables carrying 3 Amperes, comprised of 19 wires, each 21 L.S.G. diameter, .004 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 &amp; 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 NoHow are the cables led through the ship, and how protected In iron conduits.

**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. Delts 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 Electrical Engineers Date \_\_\_\_\_  
Superintendent

**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	<u>20</u>	Amperes	<u>5</u>	feet from standard compass	<u>5</u>	feet from steering compass
A cable carrying	<u>1/2</u>	Amperes	<u>1</u>	feet from standard compass	<u>1</u>	feet from steering compass
A cable carrying	<u>2</u>	Amperes	<u>6</u>	feet from standard compass	<u>6</u>	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 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 Builder's Signature. Date \_\_\_\_\_  
Superintendent

**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.  
H. Stewart

Committee's Minute FRI. FEB. 13. 1914

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

