

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 18599

Port of Sunderland Date of First Survey _____ Date of Last Survey 18 Jan 1897 No. of Visits _____
 No. in Reg. Book _____ on the ~~Iron or Steel~~ S/S. "WESTRALIA" Port belonging to Melbourne
 Built at Sunderland By whom Haing When built 1896
 Owners Huddart Parker & Co Ltd Owners Address _____
 Yard No. 533 Electric Light Installation fitted by SIEMENS BROS & CO LIMITED When fitted 1896

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 sets of direct driven plant consisting of Loapond Engines by Messrs Barnard & Handley + Siemens's Dynamos.
 Capacity of Dynamo about 160 Amperes at 105 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Bottom platform of Engine Room. Starboard side.
 Position of Main Switch Board Close to Dynamos having switches to groups _____ of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each No auxiliary boards fitted.
Mains run from switchboard direct to distributing boxes.
 If cut outs are fitted on main switch board to the cables of main circuit Yes. D.P. and on each auxiliary switch boards to the cables of auxiliary circuits _____ and at each position where a cable is branched or reduced in size _____ 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 main only.
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 100 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 _____
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes
 Total number of lights provided for 240 arranged in the following groups :-

A	<u>67</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>40</u>	Amperes
B	<u>52</u>	lights each of	"	candle power requiring a total current of	<u>31</u>	Amperes
C	<u>63</u>	lights each of	"	candle power requiring a total current of	<u>38</u>	Amperes
D	<u>59</u>	lights each of	"	candle power requiring a total current of	<u>35</u>	Amperes
E	<u>29</u>	lights each of	"	candle power requiring a total current of	<u>17</u>	Amperes
	<u>Mast head light with</u>	<u>lamps each of</u>		<u>candle power requiring a total current of</u>		<u>Amperes</u>
	<u>Side light with</u>	<u>lamps each of</u>		<u>candle power requiring a total current of</u>		<u>Amperes</u>
	<u>4</u>	<u>Cargo lights of</u>	<u>8 each 16</u>	<u>* candle power, whether incandescent or are lights included in D circuit.</u>		

If are lights, what protection is provided against fire, sparks, &c. _____
 Where are the switches controlling the masthead and side lights placed _____

DESCRIPTION OF CABLES.

Main cable carrying	<u>160</u>	Amperes, comprised of	<u>37</u>	wires, each	<u>14</u>	L.S.G. diameter,	<u>0.186</u>	square inches total sectional area
Branch cables carrying	<u>40</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>17</u>	L.S.G. diameter,	<u>0.0461</u>	square inches total sectional area
Branch cables carrying	<u>22</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>16</u>	L.S.G. diameter,	<u>0.0235</u>	square inches total sectional area
Branch cables carrying	<u>9</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>18</u>	L.S.G. diameter,	<u>0.0126</u>	square inches total sectional area
Leads to lamps carrying	<u>38</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>17</u>	L.S.G. diameter,	<u>0.046</u>	square inches total sectional area
Leads to lamps carrying	<u>18</u>	Amperes, comprised of	<u>single</u>	wires, each	<u>20</u>	L.S.G. diameter,	<u>0.0193</u>	square inches total sectional area
Cargo light cables carrying	<u>4.8</u>	Amperes, comprised of	<u>14</u>	wires, each	<u>23</u>	L.S.G. diameter,	<u>0.00634</u>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Siemens cables class 2.R. Insulated with pure vulcanized India rubber, taped, braided & coated with preservative compound, having an insulation Resistance, varying from 2,000 to 600 megohms per statute mile.
 Joints in cables, how made, insulated, and protected No joints throughout the ship, the cable being run to Distributing Boxes on Siemens jointless system.
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux _____ 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 None.
 How are the cables led through the ship, and how protected In wood casing iron pipe through Bunkers Holds & Stowage hold.

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 *None so exposed.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *In strong teak casing.*

What special protection has been provided for the cables near boiler casings *In iron pipe.*

What special protection has been provided for the cables in engine room *In strong teak casing.*

How are cables carried through beams *With teak ferrules.* through bulkheads, &c. *With brass watertight glands.*

How are cables carried through decks *With watertight lead or iron deck tubes.*

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 *Mostly in iron pipe where liable to rough usage.*

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 *With strong metal covers + caps.*

Where are the main switches and cut outs for these lights fitted *In special teak Distributing Boxes.*

If in the spaces, how are they specially protected *In Teak boxes.*

Are any switches or cut outs fitted in bunkers *None.*

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 *Double wire*

How are the returns from the lamps connected to the hull *"*

Are all the joints with the hull in accessible positions *"*

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 installation is *—————* supplied with a voltmeter and *—————* an amperemeter, fixed *—————*

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.

A. J. Salmon & Co. Electrical Engineers

Date *January 20th 1897*

COMPASSES.

Distance between dynamo or electric motors and standard compass *About 86 feet*

Distance between dynamo or electric motors and steering compass *About 86 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>25.</i>	Amperes	<i>17 feet.</i>	feet from standard compass	<i>25.</i>	feet from steering compass
A cable carrying	<i>18.</i>	Amperes	<i>17 "</i>	feet from standard compass	<i>25.</i>	feet from steering compass
<i>2 Wires</i> A cable carrying	<i>.6.</i>	Amperes	<i>6 ft 6 ins.</i>	feet from standard compass	<i>14 ft 6 ins.</i>	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 *Nil* degrees on *N. S. E. W.* course in the case of the standard compass and *Nil.* degrees on *N. S. E. W.* course in the case of the steering compass.

James Lang Builder's Signature

Date *22nd Aug 1897*

GENERAL REMARKS.

This installation as far as can be seen seems to be in accordance with Rule requirements.

J. J. Hindley

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

Committee's Minute

This installation appears to be in accordance with the Rules.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.