

TUES 1 SEP 1896

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18

Rpt. 13.

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 18,400.

Port of Sunderland Date of First Survey _____ Date of Last Survey 19 Aug 96 No. of Visits _____
 No. in on the Iron or Steel S S "Umvoti" Port belonging to _____
 Reg. Book _____ Built at Sunderland By whom James Laing When built 1896
 Owners Bullard King & Co Owners Address _____
 Yard No. 547 Electric Light Installation fitted by Claud Hamilton Esq When fitted 1896

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine (vertical 7 1/2 x 7) coupled to Dynamo (compound wound) running at a normal speed of 282 rev. per minute

Capacity of Dynamo 130 Amperes at 60 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed In Engine Room

Position of Main Switch Board Engine Room having switches to groups A, B, C & D of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each None

If cut outs are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch boards 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, tin 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, in junction boxes 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 141 arranged in the following groups:—

A	<u>35</u>	lights each of	<u>16 & 8</u>	candle power requiring a total current of	<u>30</u>	Amperes
B	<u>25</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>25</u>	Amperes
C	<u>45</u>	lights each of	<u>16 & 8</u>	candle power requiring a total current of	<u>40</u>	Amperes
D	<u>36</u>	lights each of	<u>16 & 8</u>	candle power requiring a total current of	<u>33</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<u>1</u>	Mast head light with	<u>1</u> lamps each of	<u>25</u>	candle power requiring a total current of	<u>1 1/2</u> Amperes
	<u>2</u>	Side light with	<u>1</u> lamps each of	<u>25</u>	candle power requiring a total current of	<u>1 1/2</u> Amperes
	<u>3</u>	Cargo lights of	<u>6</u> lamps each of	<u>16</u> candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed In Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 60 Amperes, comprised of 19 wires, each No. 16 L.S.G. diameter, .0624 square inches total sectional area

Branch cables carrying 34 Amperes, comprised of 19 wires, each No. 18 L.S.G. diameter, .0349 square inches total sectional area

Branch cables carrying 20 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0229 square inches total sectional area

Leads to lamps carrying 1 Amperes, comprised of 1 wires, each No. 17 L.S.G. diameter, .0024 square inches total sectional area

Cargo light cables carrying - Amperes, comprised of - wires, each - L.S.G. diameter, - square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

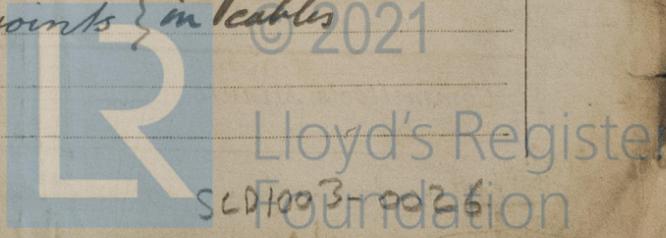
Cables all of tinned copper wires, insulated with pure india rubber, then vulcanized india rubber, india rubber coated tape, and whole vulcanized together, then braided, tarred flax, and coated preservative compound

Joints in cables, how made, insulated, and protected None

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 No joints at all

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

How are the cables led through the ship, and how protected in wood casing



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 *hard wood casing*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *special casing & piping*

What special protection has been provided for the cables near boiler casings *None*

What special protection has been provided for the cables in engine room *hard wood casing*

How are cables carried through beams *in wooden bimbles* through bulkheads, &c. *in bimbles*

How are cables carried through decks *None*

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 *hard wood casing secured properly*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *None*

If so, how are the lamp fittings and cable terminals specially protected

Where are the main switches and cut outs for these lights fitted *In Engine Room*

If in the spaces, how are they specially protected *—*

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 not connected to hull of vessel*

How are the returns from the lamps connected to the hull *Not connected*

Are all the joints with the hull in accessible positions *No joints to hull*

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 *properly* supplied with a voltmeter and *also* an amperemeter, fixed *on main switchboard*

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.

FOR CLAUD HAMILTON, LIMITED.

Claud Hamilton
MANAGER & SECRETARY

Electrical Engineers

Date *26th Aug. 1896*

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 82 feet*

Distance between dynamo or electric motors and steering compass *about 118 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	<i>14 about 5</i> feet from standard compass	<i>14 about 8</i> feet from steering compass
A cable carrying	Amperes	feet from standard compass	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

The maximum deviation due to electric currents, etc., was found to be _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

James Lang
Arthur Lang

Builder's Signature Date

GENERAL REMARKS.

As far as could be seen this installation appears to be fitted in accordance with the Rules

J. Y. Judlay

Surveyor to Lloyd's Register of British and Foreign Shipping

Committee's Minute

It is submitted that this installation appears to be in accordance with

9.9.96

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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REPORT FORM No. 13

