

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Newcastle-on-Tyne

THURS. 17 JAN 1895
Received at London Office 18

No. 31201*

No. in Reg. Book. 1 Name of Ship Johannesburg Built at Newcastle-on-Tyne When built 1895

Electric Light Installation fitted by Clarke Chapman & Co when fitted December 1894

DESCRIPTION OF DYNAMOS AND ENGINES—

Two direct coupled engines + dynamos, engines of the tandem compound, double acting, vertical type, cylinders 5" and 9" dia + of 8" stroke developing 30 I.H.P. with from 150-180 lb steam at 300 Revs. Dynamos of 2 pole, compound wound drum type.
Capacity of Dynamos each is - 150 - Amperes at - 100 - Volts, whether continuous or alternating current continuous.

Where is Dynamo fixed

LAMPS.—

Is vessel wired on single or double wire system Single Total number of lights 250 arranged in the following groups:—

A	<u>30</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>18</u>	Amperes
B	<u>80</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>48</u>	Amperes
C	<u>100</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>60</u>	Amperes
D	<u>15</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>10</u>	Amperes
E	<u>30</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>18</u>	Amperes
1	Mast head light with	2	lamps each of	<u>16</u>	candle power requiring a total current of	<u>1.2</u> Amperes
2	Side light with	2	lamps each of	<u>16</u>	candle power requiring a total current of	<u>2.4</u> Amperes
4	Cargo lights of		<u>128</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

SWITCHES AND CUT-OUTS—

Position of Main Switch Board Engine Room having switches to groups as above of lights as above

Positions of other switch boards and numbers of switches on each 1 on Main Deck 3 Switches Upper Deck 1 on poop with 4 Switches 1 in fore-castle with 4 1 in wheel house with 4 switches 1 on menage deck 1 in Chart room with 5 switches 1 in Entrance to Saloon on Bridge Deck with 10 switches 1 in do for Stateroom lights

If cut outs are fitted to main circuit Yes and to each auxiliary circuit Yes

and at each position where cable is branched or reduced in size Yes

If vessel is wired on the double wire system are cut outs fitted on each wire Single Wire System

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, close to switches

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

How are the lamps specially protected in places liable to the accumulation of vapour or gas

Are all switches and cut-outs constructed of unflammable materials and fitted on unflammable bases Yes

DESCRIPTION OF CABLES.—

Main cable carrying	<u>60</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>16</u>	legal standard wire gauge diameter
Branch cables carrying	<u>20</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>16</u>	legal standard wire gauge diameter
Branch cables carrying	<u>10</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>18</u>	legal standard wire gauge diameter
Leads to lamps	<u>1</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>16</u>	legal standard wire gauge diameter
Cargo light cables carrying	<u>5</u>	Amperes, comprised of		wires, each		legal standard wire gauge diameter

The copper used has 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

DESCRIPTION OF INSULATION, PROTECTION, &c.—

Conductors insulated pure india-rubber, then vulcanizing india-rubber, india-rubber coated tape & the whole vulcanized together

Joints in cables, how made, insulated, and protected At joints cables are well lapped together soldered, insulated with pure rubber, india-rubber solution & compound taping over all.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux

- Yes -

How are cables led throughout the ship

In teak casing except in Engine Room Stakehold & tunnel where lead covered & armoured cable wire is used fixed with brass clips also in galley

What special protection has been provided for the cables in open alleyways

Strong teak casing

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

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

Lead cover & armoured as above

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

How are cables carried through decks through iron tubes flanged and through bulkheads do

Are any cables run through coal bunkers

no

or cargo spaces

Yes

If so, how are they protected

strong teak casing

close to deck

Are any lamps fitted in coal bunkers or spaces which may be used for cargo

If so, how are they specially protected

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

by large gunmetal castings secured by bolts & brass screws with washers

How are the returns from the lamps connected to the hull

Yes

Are all the joints with the hull in accessible positions

TESTING, &c.—

Has the installation been thoroughly tested to its full capacity during a trial of

6

hours' duration

The insulation resistance of the whole installation was not less than

100 000

ohms

The installation is

supplied with a voltmeter and

2

an amperemeter, fixed on Switchboard

General Remarks.—

The Installation is subdivided having numerous distributing boards on the various decks, name plates being attached to each switch. There are two fans for ventilating the cabins & four table fans (all electric)

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 CLARKE, CHAPMAN & CO. LTD

H. Waller

Electrical Engineers

Date

4 Jan'y 1895

COMPASSES.—

Distance between dynamo and standard compass

138 feet

Distance between dynamo and steering compass

144 feet

The nearest cables to the compasses are as follows:—

A cable carrying

Amperes

feet from standard compass

feet from steering compass

A cable carrying

1.5

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.

FOR SIR W. B. ARMSTRONG, MITCHELL & CO. LTD

Arthur Gulston

Builder's Signature

Date

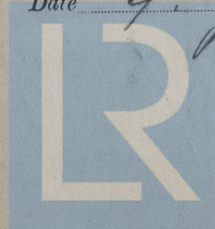
9th January 1895

J. Stoddart

Surveyor's Signature

Date

9th Jan'y 1895



© 2021

Lloyd's Register Foundation