

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 64211

Port of Newcastle Date of First Survey 14 Apr 1913 Date of Last Survey 5th May 1913 No. of Visits 6
 No. in on the Iron Steel S. Karnos Port belonging to North Shields
 Reg. Book Built at Hebburn By whom Palmers Shipbuilding & Iron Co When built 1913
 Owners Bucknall S. S. Lines Ltd Owners' Address London
 Yard No. 825 Electric Light Installation fitted by Messrs. Johnson & Phillips Ltd When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Vertical open front double acting engine Cylinders 8" x 8"
Compound wound dynamo. Plant by Clarke Chapman.
 Capacity of Dynamo 146 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Lower Platform in Eng room Whether single or double wire system is used Double
 Position of Main Switch Board Beside Dynamo having switches to groups A. B. C. D. E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Each light and group of lights are
Provided with switches as required

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. Porcelain
 Total number of lights provided for 124 arranged in the following groups:—

A	<u>36</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19</u> Amperes
B	<u>31</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>16</u> Amperes
C	<u>22</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12</u> Amperes
D	<u>13</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>7</u> Amperes
E	<u>22</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12</u> Amperes
<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.8</u> Amperes
<u>2</u>	Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.8</u> Amperes

6 Cargo lights of 6 lights each 16 candle power, whether incandescent or are lights Incandescent
 If are lights, what protection is provided against fire, sparks, &c. There are no arc lamps

Where are the switches controlling the masthead and side lights placed In Chartroom

DESCRIPTION OF CABLES.

Main cable carrying	<u>93</u> Amperes, comprised of	<u>19</u> wires, each	<u>14</u> L.S.G. diameter, <u>0.9372</u> square inches total sectional area
Branch cables carrying	<u>34</u> Amperes, comprised of	<u>7</u> wires, each	<u>14</u> L.S.G. diameter, <u>0.3459</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>0.2227</u> square inches total sectional area
Leads to lamps carrying	<u>4</u> Amperes, comprised of	<u>1</u> wires, each	<u>18</u> L.S.G. diameter, <u>0.0181</u> square inches total sectional area
Cargo light cables carrying	<u>7</u> Amperes, comprised of	<u>7</u> wires, each	<u>20</u> L.S.G. diameter, <u>0.0700</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

India rubber Vulearised taped and braided and lead covered where exposed Armoured over all

Joints in cables, how made, insulated, and protected There are no joints

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 No

How are the cables led through the ship, and how protected Through beams Clipped up under deck
Lead covered and armoured and along well decks in gal. pipes

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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 *is galv. from pipes and all lead covered and armoured*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead Cov^d & Arm^d*

What special protection has been provided for the cables near boiler casings *Lead Cov^d & Arm^d front of boilers in pipes*

What special protection has been provided for the cables in engine room *All lead covered and arm^d*

How are cables carried through beams *Lead and fibre bushes through bulkheads, &c. Water light glands*

How are cables carried through decks *in Galv. Water tight 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 *all lead cov^d and arm^d clipped up under deck*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No*

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

Where are the main switches and cut outs for these lights fitted *—*

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

Are any switches or cut outs fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *C. I. Connection boxes*

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 *—*

The installation is *also* supplied with a voltmeter and *also* an amperemeter, fixed *to main switchboard*

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 *100* 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.

N. S. Wilson

Electrical Engineers

Date *May 23rd 1913*

COMPASSES.

Distance between dynamo or electric motors and standard compass *180 ft*

Distance between dynamo or electric motors and steering compass *185 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>7</i>	<i>20</i>	<i>25</i>	<i>25</i>
<i>1.8</i>	<i>20</i>	<i>25</i>	<i>25</i>
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 *Yes*

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *all* courses in the case of the standard compass and *nil* all courses in the case of the steering compass.

J. L. Swadlow

Builder's Signature.

Date *12th June 1913*

GENERAL REMARKS.

The above installation has been fitted in accordance with the Rules & in a satisfactory manner.

It is submitted that this vessel is eligible for

THE RECORD. Elec. light. *J. W. D.* 17.6.13

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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