

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 70513

Port of Newcastle-on-Tyne Date of First Survey 1905 17 Date of Last Survey 23 Nov 17 No. of Visits 6
 No. in Reg. Book 25 on the Iron or Steel Garthwaite Port belonging to _____
 Built at Walker on Tyne By whom Wm Dobson & Co When built 1917
 Owners Wm Garthwaite Owners' Address _____
 Yard No. _____ Electric Light Installation fitted by Galvanic Co When fitted _____

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipole Compound wound dynamo direct coupled to open type Steam engine
 Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Engine Room Whether single or double wire system is used double
 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 Prop. 5, Engine Room 5 Steering Space 4, Saloon 6, Churn Room 7

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes
 Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 50 per cent over the normal current
 Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 105 arranged in the following groups:—

A	<u>19</u> lights each of	<u>16</u> candle power requiring a total current of	<u>10.4</u> Amperes
B	<u>21</u> lights each of	" candle power requiring a total current of	<u>12.6</u> Amperes
C	<u>24</u> lights each of	" candle power requiring a total current of	<u>14.4</u> Amperes
D	<u>36</u> lights each of	" candle power requiring a total current of	<u>21.6</u> Amperes
E	lights each of	candle power requiring a total current of	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>2</u> Amperes
<u>2</u>	Side light with <u>1</u> lamps each of	" candle power requiring a total current of	<u>2</u> Amperes
<u>5</u>	Cargo lights of	<u>90</u> candle power, whether incandescent or arc lights	<u>Incandescent</u>

If arc lights, what protection is provided against fire, sparks, &c. None

Where are the switches controlling the masthead and side lights placed In Churn House

DESCRIPTION OF CABLES.

Main cable carrying 80 Amperes, comprised of 19 wires, each 15 S.W.G. diameter, .076 square inches total sectional area
 Branch cables carrying 14 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .072 square inches total sectional area
 Branch cables carrying 21 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .072 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 70 wires, each 36 S.W.G. diameter, .0024 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure & Vulcanized India Rubber Taping & Branding etc

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

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Yes

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 Clipped on underside of decks, or lead covered in cabins clipped to woodwork



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 Lead covering & Armouring

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

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 Bushed holes through bulkheads, &c. W.T. glands

How are cables carried through decks Iron deck tubes

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 Lead covering & steel armouring

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coats, or baggage none fitted

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

Where are the main switches and fuses for these lights fitted ✓

If in the spaces, how are they specially protected ✓

Are any switches or fuses 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 Double wiring

How are the returns from the lamps connected to the hull ✓

Are all the joints with the hull in accessible positions ✓

Is the installation supplied with a voltmeter yes and with an amperemeter yes, fixed on Main Board

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas ✓

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

Galeana Crowder Electrical Engineers Date 14/12/17

COMPASSES.

Distance between dynamo or electric motors and standard compass about 90 ft

Distance between dynamo or electric motors and steering compass " 100 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6</u>	Ampere	<u>22</u>	feet from standard compass	<u>30</u>	feet from steering compass
A cable carrying	<u>2</u>	Ampere	<u>10</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>5</u>	Ampere	<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.

William Dobson Builder's Signature. Date 21st December

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

J.W.D. 27/12/17

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

Committee's Minute



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