

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10438

Port of Southampton Date of First Survey 25<sup>th</sup> Sept. Date of Last Survey 3<sup>rd</sup> Dec. 1919 No. of Visits 4  
 Built on the Iron or Steel S. Tug "S<sup>T</sup> MINVER" Port belonging to  
 Book Built at Southampton By whom Day, Summers & Co. Ltd When built 1919  
 Owners The Admiralty Owners' Address  
 No. 176 Electric Light Installation fitted by Day, Summers & Co. Ltd When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC. An additional dynamo fitted 8 1/2, 11KW (not in parallel)  
 Engine: Delaval Turbine N<sup>o</sup> 61438; 30,000 Revs. 120 lb. Steam pressure. 20 B.H.P.  
 Dynamo: Greenwood & Batey Ltd N<sup>o</sup> 7581. 13 K.W. 3,000 Revs. Shunt wound.  
 Capacity of Dynamo 125 Amperes at 105 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 Do. 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

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 85 arranged in the following groups:—  

<u>39</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>23</u>	Amperes
<u>20</u>	lights each of	<u>8</u>	candle power requiring a total current of	<u>6</u>	Amperes
<u>14</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>8</u>	Amperes
<u>12</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>16</u>	Amperes
	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>16</u>	candle power requiring a total current of	<u>1/2</u> Amperes
<u>2</u>	Side light with	<u>1</u> lamps each of	<u>16 &amp; 32</u>	candle power requiring a total current of	<u>2</u> Amperes
<u>2</u>	Cargo lights of	<u>384</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

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

## DESCRIPTION OF CABLES.

Main cable carrying	<u>43</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>14</u>	S.W.G. diameter,	<u>.0973</u>	square inches total sectional area
Branch cables carrying	<u>9</u>	Amperes, comprised of	<u>3</u>	wires, each	<u>18</u>	S.W.G. diameter,	<u>.0054</u>	square inches total sectional area
Branch cables carrying	<u>5</u>	Amperes, comprised of	<u>3</u>	wires, each	<u>18</u>	S.W.G. diameter,	<u>.0054</u>	square inches total sectional area
Leads to lamps carrying	<u>128</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>17</u>	S.W.G. diameter,	<u>.0174</u>	square inches total sectional area
Cargo light cables carrying	<u>7</u>	Amperes, comprised of	<u>3</u>	wires, each	<u>18</u>	S.W.G. diameter,	<u>.0054</u>	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Admiralty pattern lead covered over pure & vulcanised rubber and taped.

Points in cables, how made, insulated, and protected No joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — 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 Lead covered, brass clipped, W.T. glands & deck tubes and wood bushes.



**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 casing & W.T. deck tubes and glands.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead casing on channel plates.

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

What special protection has been provided for the cables in engine room Lead casing and pipe.

How are cables carried through beams Bushed holes through bulkheads, &c. W.T. glands.

How are cables carried through decks W.T. Deck Tubes.

Are any cables run through coal bunkers No or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage No

If so, how are they protected —

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 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 —

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 a Switchboard

**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 2,500 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.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 80 ft. from Dynamo. 20 ft. from Wireless note.

Distance between dynamo or electric motors and steering compass 85 " " 25 " " "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
15	5	10	
3	5	10	
4	15	20	

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 2 degrees on East course in the case of the standard compass and 2 degrees on East course in the case of the steering compass.

**GENERAL REMARKS.**

The Electric Installation has been fitted under special survey, quality of material and workmanship being sound and good; same has been examined under working conditions and found satisfactory.

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

ELEC. LIGHT

17/1/20

For J. Marshall & Self  
A. H. Boyle

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

Committee's Minute. TUE JAN. 20. 1920



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