

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 79596

Port of Liverpool Date of First Survey Sept 8 Date of Last Survey Sept 16 No. of Visits 6
 No. in Reg. Book 19896 on the Iron or Steel of Dionysios Stathatos Port belonging to
 Built at Birkenhead By whom Messrs Cammell Laird & Co When built 1919
 Owners Messrs Cammell Laird & Co Owners' Address
 Yard No. 853 Electric Light Installation fitted by Messrs Cammell Laird & Co When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Messrs Clarke Chapman Single Cylinder open type Engine and
Messrs Clarke Chapman Compound wound dynamo.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed In Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board In Engine Room having switches to groups five in no of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each none fitted

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 — 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-oxidisable metal yes and constructed to fuse at an excess of 75 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 2 x 6 380 arranged in the following groups:—

A	<u>88</u> lights each of <u>32, 9, 16</u>	candle power requiring a total current of	<u>21.0</u>	Amperes
B	<u>40</u> lights each of <u>16</u>	candle power requiring a total current of	<u>22.3</u>	Amperes
C	<u>60</u> lights each of <u>16</u>	candle power requiring a total current of	<u>33.4</u>	Amperes
D	<u>28</u> lights each of <u>32, 16, 8, 6</u>	candle power requiring a total current of	<u>11.7</u>	Amperes
E	<u>Wireless Telegraph</u> lights each of	candle power requiring a total current of	<u>26.0</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>2.2</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>2.2</u>	Amperes
	<u>10</u> Cluster Cargo lights of <u>6</u> lamps 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 Wheel House

DESCRIPTION OF CABLES.

Main cable carrying	<u>95.3</u> Amperes, comprised of	<u>19</u> wires, each	<u>14</u> S.W.G. diameter,	<u>.094</u> square inches total sectional area
Branch cables carrying	<u>22.3</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> S.W.G. diameter,	<u>.022</u> square inches total sectional area
Branch cables carrying	<u>21</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> S.W.G. diameter,	<u>.022</u> square inches total sectional area
Leads to lamps carrying	<u>2.5</u> Amperes, comprised of	<u>3</u> wires, each	<u>22</u> S.W.G. diameter,	<u>.0018</u> square inches total sectional area
Cargo light cables carrying	<u>33.4</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> S.W.G. diameter,	<u>.022</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables of 600 Megohm C.M.A. grade lead covered, armoured and braided in Engine & Boiler Rooms, braided and run in wood casing in accommodation spaces
 Joints in cables, how made, insulated, and protected None
 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 In galvanized steel tubing with inspection boxes at intervals

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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *No. Some cables are run through Cargo Spaces*
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *cables in steel tubing*

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

What special protection has been provided for the cables near boiler casings *Lead covered & armoured cable fitted*

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

How are cables carried through beams *in lead bushes* through bulkheads, &c. *in W.T. Glauks*

How are cables carried through decks *in W.T. 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

If so, how are they protected *in steel tubing*

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 *on 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 *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.

CAMMELL LAIRD AND COMPANY LIMITED.

G. W. Laird Electrical Engineers

Date *16.9.19*

COMPASSES.

LOCAL SECRETARY.

Distance between dynamo or electric motors and standard compass *96 feet*

Distance between dynamo or electric motors and steering compass *98 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>.6</i> Amperes	<i>1</i> feet from standard compass	<i>9</i> feet from steering compass
A cable carrying	<i>.6</i> Amperes	<i>9</i> feet from standard compass	<i>1</i> feet from steering compass
A cable carrying	<i>11.7</i> Amperes	<i>11</i> feet from standard compass	<i>6</i> 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 *1° E* degrees FROM *E* TO *SSE* course in the case of the standard compass and *3° E* degrees ON *E* BY *STE* course in the case of the steering compass.

CAMMELL LAIRD AND COMPANY LIMITED.

G. W. Laird Builder's Signature.

Date *16.9.19*

GENERAL REMARKS.

The Electric Installation has been fitted in accordance with the Rules and when tried under full working conditions was found satisfactory in every respect. In our opinion, it is eligible for the notification of "Electric Light".

It is submitted that this vessel is eligible for THE RECORD. Elec. light. *J.W.P. 25/9/19* *B. G. Duffin* Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 23 SEP 1919

Electric Light
ZR

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

