

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 42121

Port of GLASGOW. Date of First Survey 9th June Date of Last Survey 22nd Aug No. of Visits 2.  
 No. in Reg. Book 56357 on the Iron or Steel SS. BRITISH. COMMERCE Part belonging to LONDON.  
 Built at DALMUIR. By whom W.M. BEARDMORE & CO. LTD When built 1922.  
 Owners THE BRITISH TANKER CO Owners' Address \_\_\_\_\_  
 Yard No. 625 Electric Light Installation fitted by W.M. BEARDMORE & CO. LTD When fitted 1922.

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

- TOTAL K.W. = 30 -

2. 3/4 HP EACH CONSISTING OF A VERTICAL SINGLE CYLINDER OPEN TYPE ENGINE HAVING CYLINDER 8" DIA. X 7" STROKE. DIRECT COUPLED TO MULTIPOLAR COMPOUND WOUND GENERATOR  
 Capacity of Dynamo (EACH) 136 Amperes at 110 Volts, whether continuous or alternating current CONTINUOUS.  
 Where is Dynamo fixed ON PLATFORM IN ENGINE ROOM Whether single or double wire system is used DOUBLE  
 Position of Main Switch Board IN ENGINE ROOM. having switches to groups of 7 CIRCUITS of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each :- SECTION & DISTRIBUTION BOXES ON TANK, UPPER BRIDGE, UPPER BRIDGE, & FLYING BRIDGE. CONTROLLED FROM MAIN SWITCHBOARD SWITCHES. ALSO FORWARD CREW CIRCUIT CONTROLLED BY D.P. SWITCH PLACED IN "CHART HOUSE" (UNDER OFFICER'S CONTROL)  
 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

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases YES.

Total number of lights provided for 172 & 1 SET. SUEZ CANAL SIGNALS. 1 SET. NOT UNDER CONTROL. MORSE SIGNALS. 2 CARGO CLUSTERS. 17 TABLE FANS. & 2 CLEAR VIEW SCREENS. arranged in the following groups :-

A	<u>31</u> lights each of <u>30 WATTS</u> candle power requiring a total current of <u>8.5</u> Amperes
B	<u>64 &amp; 12 CARGO - N.U.C. TABLE FANS - MORSE SUEZ CANAL - C.V. SCREENS.</u> lights each of <u>30 WATTS ETC</u> candle power requiring a total current of <u>40.7</u> Amperes
C	<u>25 &amp; 5 FANS</u> lights each of <u>30 WATTS</u> candle power requiring a total current of <u>9.3</u> Amperes
D	<u>52</u> lights each of <u>30 &amp; 100 WATTS</u> candle power requiring a total current of <u>20.</u> Amperes
E	<u>WIRELESS TELEGRAPHY</u> lights each of _____ candle power requiring a total current of <u>14.</u> Amperes
F	<u>ANTI-CORROSION</u> _____
G	<u>STEERING GEAR</u> _____
	<u>2</u> Mast head lights with <u>7</u> lamps each of <u>32</u> candle power requiring a total current of <u>9.2</u> Amperes
	<u>2</u> Side lights with <u>1</u> lamp each of <u>32</u> candle power requiring a total current of <u>2.</u> Amperes
	<u>2</u> Cargo lights of <u>500 WATTS EACH</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 NAVIGATION. LIGHT INDICATOR. IN WHEEL HOUSE.

### DESCRIPTION OF CABLES.

Main cable carrying <u>136.0</u> Amperes, comprised of <u>37</u> wires, each <u>.083</u> S.W.G. diameter, <u>.2</u> square inches total sectional area
Branch cables carrying <u>40.7</u> Amperes, comprised of <u>37</u> wires, each <u>.072</u> S.W.G. diameter, <u>.15</u> square inches total sectional area
Branch cables carrying <u>10.5</u> Amperes, comprised of <u>7</u> wires, each <u>.044</u> S.W.G. diameter, <u>.01</u> square inches total sectional area
Leads to lamps carrying <u>.27</u> Amperes, comprised of <u>3</u> wires, each <u>.029</u> S.W.G. diameter, <u>.002</u> square inches total sectional area
Cargo light cables carrying <u>4.5</u> Amperes, comprised of <u>70</u> wires, each <u>.0076</u> S.W.G. diameter, <u>.003</u> square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.I.R. LEAD COVERED, ARMoured & BRAIDED CABLES OF 2,500 MEGOHM GRADE PROTECTED BY SHEET IRON TROUGHING - FILLED WITH BITUMEN :- IN OFFICERS' ACCOMMODATION LEAD COVERED CABLES ARE PROTECTED BY WOOD CASING :- WIRES TO MASTHEAD 6" CARRIED IN HEAVY GAUGE PIPING.

Joints 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 JOINTS

How are the cables led through the ship, and how protected MAIN CABLES ENCLOSED IN SHEET IRON TROUGHING & FILLED IN WITH BITUMEN.



**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 SHEET-IRON TROUGHING  
FILLED IN WITH BITUMEN.

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

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

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

How are cables carried through beams BUSHED through bulkheads, &c. GLANDS.

How are cables carried through decks 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 —

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 NONE

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 —

Cargo light cables, whether portable or permanently fixed PORTABLE How fixed STANDING LEADS FINISHED IN IRON BOXES.

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 MAIN 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 YES.

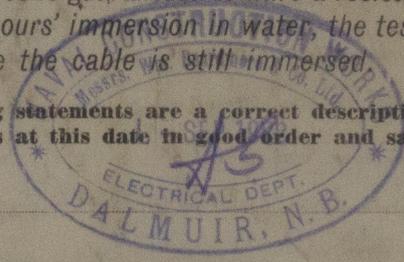
Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas NO LAMPS FITTED.

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 2500 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.



Electrical Engineers Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 208'

Distance between dynamo or electric motors and steering compass 206'

The nearest cables to the compasses are as follows:—

A cable carrying	<u>8.4</u>	Amperes	<u>8</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>8</u>	Amperes	<u>17</u>	feet from standard compass	<u>14</u>	feet from steering compass
A cable carrying	<u>5</u>	Amperes	<u>8</u>	feet from standard compass	<u>8</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 ANY course in the case of the standard compass and No degrees on ANY course in the case of the steering compass.

WILLIAM BEARDMORE & CO., LIMITED.

H. Brown Builder's Signature. Date 1st September 1922.

**GENERAL REMARKS.**

*This installation has been fitted on board under special survey. Tested under full working conditions and found satisfactory.*

FEE: £22-10-0

4/c 25/9/22  
Pd 30/9/22

THE RECORD  
Elec. Light & Rankin  
11/9/22  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 5-SEP-1922  
Elec. Light



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN

H.C.  
4-9-22

2m.11.10.—Transfer.