

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7117

Port of NEWCASTLE ON TYNE Date of First Survey 8th July Date of Last Survey 8th Aug 1918 No. of Visits 11  
 No. in on the Iron or Steel J.S. KENT Port belonging to LONDON  
 Reg. Book Built at JARROW By whom MESSRS PALMER & CO LTD When built 1918  
 Owners FEDERAL STEAMSHIP CO LTD Owners' Address  
 Yard No. 867 Electric Light Installation fitted by MESSRS PALMER & CO LTD When fitted 1918

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 ENGINES EACH  $7\frac{1}{2} \times 7$  VERTICAL SINGLE CYLINDER FORCED LUBRICATION

2 DYNAMOS EACH 16 KW TROUP CURTIS & CO.

Capacity of Dynamo 160 Amperes at 100 Volts, whether continuous or alternating current CONTINUOUS  
 Where <sup>ARE</sup> Dynamos fixed ENGINE ROOM Whether single or double wire system is used DOUBLE  
 Position of Main Switch Board ENGINE ROOM having switches to groups 6 MAIN CIRCUITS of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each ✓

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-oxidisable metal YES and constructed to fuse at an excess of 25 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 305 arranged in the following groups:—

MARCONI CIRCUIT FED FROM SWITCHBOARD BUS-BARS THROUGH SEPARATE SWITCH	15.0	Amperes
A NAVIGATION & MIDSHIPS lights each of 5-8; 44-16; 29-32 & 2-500 candle power requiring a total current of	25.15	Amperes
B ENGINE ROOM lights each of 66-16 & 2-500 candle power requiring a total current of	18.2	Amperes
C ENGINEERS ACCOMMODATION lights each of 52-16; 20-32 & 1-500 candle power requiring a total current of	20.9	Amperes
D AFT ACCOMMODATION lights each of 1-8; 45-16; 20-32 & 1-500 candle power requiring a total current of	19.65	Amperes
E FORECASTLE lights each of 5-16; 5-32 & 1-500 candle power requiring a total current of	7.9	Amperes
F ENGINE ROOM FANS & ELECTROLYTE SYSTEM POTARY CONVERTERS	101.0	Amperes
Must head light with 1 lamp each of 32	.4	Amperes
2 Side lights with 1 lamp each of 32	.8	Amperes
14 Cargo lights of EACH OF 5-32		
& 52 WATT LAMPS 500		

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed CHARTHOUSE

## DESCRIPTION OF CABLES.

Main cable carrying <u>160</u> Amperes, comprised of <u>37</u> wires, each <u>.082</u> S.W.G. diameter, <u>2</u> square inches total sectional area
Branch cables carrying <u>25.9</u> Amperes, comprised of <u>7</u> wires, each <u>.18</u> S.W.G. diameter, <u>.0125</u> square inches total sectional area
" " " <u>18.2</u> " " " <u>19</u> " " " <u>.20</u> " " " <u>.019</u> " " " " " "
Branch cables carrying <u>20.9</u> Amperes, comprised of <u>19</u> wires, each <u>.14</u> S.W.G. diameter, <u>.094</u> square inches total sectional area
" " " <u>19.65</u> " " " <u>19</u> " " " <u>.16</u> " " " " " "
Leads to lamps carrying <u>1.2</u> Amperes, comprised of <u>1</u> wires, each <u>.17</u> S.W.G. diameter, <u>.00246</u> square inches total sectional area
Cargo light cables carrying <u>2.0</u> Amperes, comprised of <u>7</u> wires, each <u>.18</u> S.W.G. diameter, <u>.0125</u> square inches total sectional area
2 WATT LAMP <u>2.5</u> " " " <u>7</u> " " " <u>.18</u> " " " " " "

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.I.R. ARMoured & LEAD COVERED IN ENGINE & BOILER ROOMS ALSO ON MAIN & TWEEN DECKS

Joints in cables, how made, insulated, and protected ✓

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 CABLES ARE PULLED THROUGH BEAMS & ARE ARMoured.



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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 LEAD COVERED

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat LEAD COVERED

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

What special protection has been provided for the cables in engine room " " "

How are cables carried through beams CLEAR HOLES through bulkheads, &c. PACKED GLANDS

How are cables carried through decks PACKED 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 ARMoured & LEAD COVERED

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 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 FT.

Distance between dynamo or electric motors and steering compass 80 FT.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	ON	feet from standard compass	feet from steering compass
A cable carrying .5	Amperes	ON	7	feet from steering compass
A cable carrying .5	Amperes	7 FT.	ON	feet from steering compass
A cable carrying ✓	Amperes	✓	✓	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 ✓ degrees on ✓ course in the case of the standard compass and ✓ degrees on ✓ course in the case of the steering compass.

GENERAL REMARKS.

The electric lighting installation of this vessel has been fitted in accordance with the rules and satisfactorily tested with all lamps burning.

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

Builder's Signature.

Date

30th September 18

George Murdoch

Surveyor to Lloyd's Register of Shipping.

Committee's Minute.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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