

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28199

Port of Sunderland Date of First Survey Oct 25 '21 Date of Last Survey Nov 11 '21 No. of Visits 6
 No. in Reg. Book 20578 on the Iron Steel S.S. 'KARONGA' Port belonging to London
 Built at Sunderland By whom W. Gray & Co (1918) Ltd When built 1921
 Owners Ellerman & Bucknall S.S. Co. Ltd. Owners' Address 526 Billiter Avenue, London E.C. 3.
 Yard No. 942 Electric Light Installation fitted by W. Gray & Co (1918) Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct Coupled generating plant. Output 20KW @ 100 Volts when running at 300 R.P.M. with 100 lbs steam pressure, Engine vertical open fronted Cyls 8" x 8"
 Capacity of Dynamo 200 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 near dynamo having switches to groups 8 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each engine room 9 chart house 9

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 20% 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 185 arranged in the following groups:—

A	<u>43</u>	lights each of	<u>16 CP</u>	candle power requiring a total current of	<u>23</u>	Amperes
B	<u>8</u>	lights each of	<u>32 CP</u>	candle power requiring a total current of	<u>9</u>	Amperes
C	<u>26</u>	lights each of	<u>16 CP</u>	candle power requiring a total current of	<u>14</u>	Amperes
D	<u>26</u>	lights each of	<u>16 CP</u>	candle power requiring a total current of	<u>14</u>	Amperes
E	<u>30</u>	lights each of	<u>16 CP</u>	candle power requiring a total current of	<u>16</u>	Amperes
<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32 CP</u>	candle power requiring a total current of	<u>2</u>	Amperes
<u>2</u>	Side light with	<u>1</u> lamps each of	<u>32 CP</u>	candle power requiring a total current of	<u>2</u>	Amperes
<u>7</u>	Cargo lights of	<u>1 each</u>	<u>200 1/2 watt.</u>	candle power, whether incandescent or arc lights	<u>14</u>	

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

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

DESCRIPTION OF CABLES.

Main cable carrying 23 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, — square inches total sectional area
 Branch cables carrying 9 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, — square inches total sectional area
 Branch cables carrying 14 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, — square inches total sectional area
 Leads to lamps carrying 14 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, — square inches total sectional area
 Cargo light cables carrying 14 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, — square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead Armoured & Braided.

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 —

How are the cables led through the ship, and how protected Lead & Armoured & Braided



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 & Armoured

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

What special protection has been provided for the cables near boiler casings Lead Covered & Armoured

What special protection has been provided for the cables in engine room Lead Covered & Armoured

How are cables carried through beams holes drilled through bulkheads, &c. W.T. Splands

How are cables carried through decks 18" 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 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 _____

Cargo light cables, whether portable or permanently fixed Portable How fixed Cast Iron W.T. Boxes & plug

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 Yes

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.

W.B. Shaw
FOR THE WEAR SHIPYARD

Electrical Engineers

Date 24th Nov. 1921

COMPASSES.

Distance between dynamo or electric motors and standard compass 50 yards

Distance between dynamo or electric motors and steering compass 48 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>7</u>	Amperes	<u>18 feet</u>	feet from standard compass	<u>16 feet</u>	feet from steering compass
A cable carrying	<u>1</u>	Amperes	<u>15 "</u>	feet from standard compass	<u>14 "</u>	feet from steering compass
A cable carrying	<u>.50</u>	Amperes	<u>10 "</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 nil degrees on _____ course in the case of the standard compass and nil degrees on _____ course in the case of the steering compass.

W.B. Shaw
FOR THE WEAR SHIPYARD

Builder's Signature.

Date 24th Nov. 1921

GENERAL REMARKS.

This installation has been fitted in a satisfactory manner and in accordance with the rules.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light.
Applied for 25 NOV 1921

H. H. H. H.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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