

THU. 7 DEC. 1921

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28199

Port of Sunderland Date of First Survey Oct 25 '21 Date of Last Survey Nov 14 '21 No. of Visits 6
 No. in on the Iron or Steel S.S. "KARONGA" Port belonging to London
 Reg. Book 20578 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 at 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	<u>23</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>18</u>	S.W.G. diameter,	square inches total sectional area
Branch cables carrying	<u>9</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>20</u>	S.W.G. diameter,	square inches total sectional area
Branch cables carrying	<u>14</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>20</u>	S.W.G. diameter,	square inches total sectional area
Leads to lamps carrying	<u>14</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>20</u>	S.W.G. diameter,	square inches total sectional area
Cargo light cables carrying	<u>14</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>18</u>	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 or cargo spaces or spaces which may be used for carrying cargo, stores, or baggage

No

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

Cargo light cables, whether portable or permanently fixed

Portable

How fixed

Cast Iron W.T. Boxes & plugs

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.

FOR THE WEAR SHIPYARD

W.B. Shaw

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	Amperes	feet from standard compass	feet from steering compass
7	18 feet	16 feet	
1	15 "	14 "	
.50	10 "	8 "	

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

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

Fee of 17.10.0

THE RECORD. Elec. Light.

Applied for 25 NOV 1921

2/12/21

H.K. Hark

Surveyor to Lloyd's Register of Shipping.

Committee's Minute