

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 26767

Port of SUNDERLAND. Date of First Survey 18 Jul. Date of Last Survey 25 Jul 16 No. of Visits 2
 No. in on the Iron or Steel SS Usamouth Port belonging to Newport
 Reg. Book Built at Sunderland By whom Messrs. P. Priestman & Co When built 1916
 Owners R. W. Jones & Co Owners' Address Newport, Mon.
 Yard No. 255 Electric Light Installation fitted by Messrs. Clarke Chapman & Co When fitted 1916

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 70 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 near dynamo having switches to groups A B C & D of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required

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 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 yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes slate & porcelain

Total number of lights provided for 96 arranged in the following groups:-

A	<u>38</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>21.3</u>	Amperes
B	<u>37</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>20.7</u>	Amperes
C	<u>21</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>11.7</u>	Amperes
D	<u>-</u>	lights each of	<u>-</u>	candle power requiring a total current of	<u>-</u>	Amperes
E	<u>-</u>	lights each of	<u>-</u>	candle power requiring a total current of	<u>-</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>4</u>	Cargo lights of	<u>6-16</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. 2-6 1/2 amp arc lamps with enclosed glass lanterns

Where are the switches controlling the masthead and side lights placed in Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 70 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area

Branch cables carrying 21.3 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .017 square inches total sectional area

Branch cables carrying 11.7 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .0070 square inches total sectional area

Leads to lamps carrying .56 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 3.3 Amperes, comprised of 168 wires, each 38 S.W.G. diameter, .0050 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

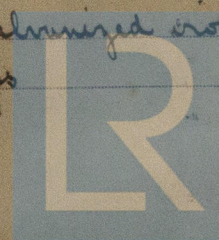
Vulcanized india rubber lapped & braided & lead covered where exposed steel
armoured overall

Joints in cables, how made, insulated, and protected no joints except mechanical ones

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances yes 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 yes no

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 Lead covered cables run in galvanized iron pipes
alongside hatch coming & clipped to same with sling iron clips



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 & steel*

Armoured cables

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

What special protection has been provided for the cables near boiler casings " " " "

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

How are cables carried through beams *in lead bushes* through bulkheads, &c. *in HT glands*

How are cables carried through decks *in galvanized iron deck tubes*

Are any cables run through coal bunkers *Yes* or cargo spaces *No* or spaces which may be used for carrying cargo, stores, or baggage *No*

If so, how are they protected *Lead covered & steel armoured cables*

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 *to HT connection boxes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double wire system*

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 *650* 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 *for Blake, Chapman & Co. Ltd.* in good order and safe working condition.

A. Walker

Chairman

Electrical Engineers

Date *July 29, 1916*

COMPASSES.

Distance between dynamo or electric motors and standard compass *66 feet*

Distance between dynamo or electric motors and steering compass *60 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Ampères	feet from standard compass	feet from steering compass
<i>.56</i>	<i>12</i>	<i>6</i>	<i>feet from steering compass</i>
<i>.56</i>	<i>6</i>	<i>12</i>	<i>feet from steering compass</i>
<i>-</i>	<i>-</i>	<i>-</i>	<i>feet from steering compass</i>

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 *all* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

per Hiesterman Ho

Builder's Signature.

Date *July 31, 1916*

GENERAL REMARKS.

The above installation has been fitted in accordance with the requirements, it has been tried under full power with satisfactory results. In my opinion this vessel is eligible for record of Elec. Light.

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

Elec Light 2/4.8.16

Charles Cooper

2 AUG 1916

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.