

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 74521

Port of *Newcastle on Tyne* Date of First Survey *4/5/21* Date of Last Survey *12/7/21* No. of Visits *7*
 No. in *on the* *Steel* *San Felix* Port belonging to *London*
 Reg. Book *81711* Built at *Newcastle* By whom *Armstrong Whitworth & Co. Ltd* When built *1921*
 Owners *Eagle Air Transport Co. Ltd* Owners' Address
 Card No. *907* Electric Light Installation fitted by *Armstrong Whitworth & Co. Ltd* When fitted *1921*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound wound, multipolar dynamo direct coupled to steam engines. Inkers for units
Sunderland Forge & Eng Co. Ltd R.P.M. 320
 Capacity of Dynamo *120* Amperes at *100* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *Dynamo flat aft end engine room* Whether single or double wire system is used *double*
 Position of Main Switch Board *50* having switches to groups *A.B.C + aux board sup. lights, &c., as before*
 Positions of auxiliary switch boards and numbers of switches on each *see separate sheet attached herewith.*

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
 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.*

Total number of lights provided for *266 + 49 fans* arranged in the following groups:—

A Engine room lights each of <i>3-60 watt, 58-20 watt, 8-16</i> candle power requiring a total current of <i>18.2</i> Amperes
B Workshop lights each of <i>Drilling machine 2 HP, 1-12 HP, 1-12 HP, 1-12 HP</i> candle power requiring a total current of <i>32.3</i> Amperes
C Engine room lights each of <i>26-12" fan, 2-16" fan, 1-36" fan</i> candle power requiring a total current of <i>37.9</i> Amperes
D See separate sheet lights each of <i>32</i> candle power requiring a total current of <i>—</i> Amperes
E for auxiliary lights each of <i>—</i> candle power requiring a total current of <i>—</i> Amperes
2 Mast head light with <i>1</i> lamps each of <i>32</i> candle power requiring a total current of <i>2.4</i> Amperes
2 Side light with <i>1</i> lamps each of <i>32</i> candle power requiring a total current of <i>2.4</i> Amperes
8 Cargo lights of <i>96</i> candle power, whether incandescent or arc lights <i>incandescent</i>

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

Where are the switches controlling the masthead and side lights placed *Incharh house.*

DESCRIPTION OF CABLES.

Main cable carrying <i>150</i> Amperes, comprised of <i>37</i> wires, each <i>15</i> S.W.G. diameter, <i>.18</i> square inches total sectional area
Branch cables carrying <i>37.9</i> Amperes, comprised of <i>19</i> wires, each <i>17</i> S.W.G. diameter, <i>.06</i> square inches total sectional area
Branch cables carrying <i>32.3</i> Amperes, comprised of <i>7</i> wires, each <i>16</i> S.W.G. diameter, <i>.0225</i> square inches total sectional area
Cables to lamps carrying <i>2.4</i> Amperes, comprised of <i>3</i> wires, each <i>22</i> S.W.G. diameter, <i>.002</i> square inches total sectional area
Cargo light cables carrying <i>3.6</i> Amperes, comprised of <i>70</i> wires, each <i>26</i> S.W.G. diameter, <i>.003</i> square inches total sectional area

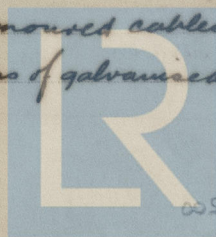
DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Lead covered cable in cabins accommodation. Engine room lead covered & armoured cable. Special twin between Junction boxes forward & aft. Two proof tapes compounded cores. Jute covered, taped braided & compounded, armoured & braided & compounded in cables, how made, insulated, and protected. *none made.* *overall.**

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 *Lead covered & lead covered & armoured cables clipped with brass clips. Special armoured twin clipped to underside of gangway by means of galvanised 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 & armoured*

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

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

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

How are cables carried through beams *lead bushed holes* through bulkheads, &c. *waterlight glands*

How are cables carried through decks *waterlight 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 *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 *waterlight connection 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 amperometer *yes* *2 of each on main board, fixed 1 voltmeter on main board.*

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

How are the lamps specially protected in places liable to the accumulation of vapour or gas *gaslight fittings*

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 *340 feet.*

Distance between dynamo or electric motors and steering compass *338 feet.*

The nearest cables to the compasses are as follows:—

Cable carrying	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying <i>.6</i>	<i>on the</i>	<i>3</i> feet from standard compass	<i>3</i> feet from steering compass
A cable carrying <i>.6</i>	<i>on the</i>	<i>3</i> feet from standard compass	<i>3</i> feet from steering compass
A cable carrying <i>.6</i>	<i>on the</i>	<i>3</i> feet from standard compass	<i>3</i> 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 *all* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

SIR W. G. ARMSTRONG, WHITWORTH & CO. LTD.

H. G. Bellhams

Builder's Signature, Date *25th July 1921*

GENERAL REMARKS.

The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation elec. light, wireless

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

Fee £ 19. 10/-

Applied for 19/7/21 at

2/8/21

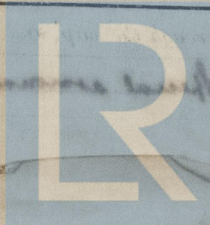
W. T. Badger.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

LOYD'S REGISTER OF SHIPPING.



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