

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 42662

Port of Newcastle-on-Tyne Type of First Survey Sept 19th Date of Last Survey Nov 20th No. of Visits 13
 No. in Reg. Book Supp. 25 on the Iron or Steel Baralong Port belonging to London
 Built at Newcastle-on-Tyne By whom Sir W. G. Armstrong Whitworth & Co. Ltd When built 1901
 Owners Bucknall Bros Owners' Address London
 Yard No. 711 Electric Light Installation fitted by Clarke Chapman & Co When fitted 1901

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One tandem compound double cylinder double acting engine direct coupled to continuous current compound wound dynamo.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed on platform at starboard side of main engine room.
 Position of Main Switch Board bulkhead 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 is provided with a switch fitted near to light.

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50 per cent over the normal current
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases slate and ambrow

Total number of lights provided for 122-16 C.P. arranged in the following groups:—

A	<u>38</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>22.8</u>	Amperes
B	<u>38</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>22.8</u>	Amperes
C	<u>24</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>14.4</u>	Amperes
D	<u>22</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>13.2</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<u>2</u>	Mast head light with <u>2</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
	<u>2</u>	Side light with <u>2</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
	<u>5</u>	Cargo lights of	<u>8-16 C.P.</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

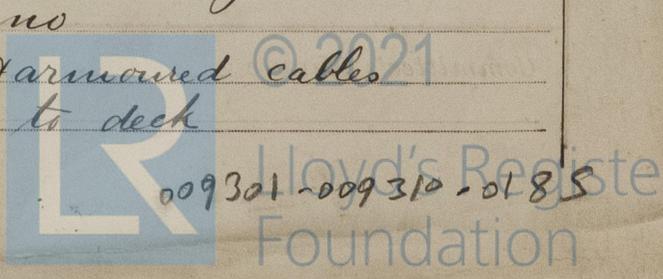
If arc lights, what protection is provided against fire, sparks, &c. no arc lamps in this ship
 Where are the switches controlling the masthead and side lights placed in chart house

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 61 wires, each 18 L.S.G. diameter, .113 square inches total sectional area
 Branch cables carrying 22.8 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0229 square inches total sectional area
 Branch cables carrying 4.8 Amperes, comprised of 1 wires, each 14 L.S.G. diameter, .005 square inches total sectional area
 Leads to lamps carrying 6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 4.8 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .0072 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Oulcanized rubber taped and braided and lead covered over all and where exposed steel armoured over the lead covering
 Joints in cables, how made, insulated, and protected No joints except mechanical ones.
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 & armoured cables secured by brass clips fixed close up to deck



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *except in upper Tween deck bunkers, yes*
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *lead covered and armoured secured by brass clips*
 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 *" " " "*
 How are cables carried through beams *in lead bushes* through bulkheads, &c. *in watertight glands*
 How are cables carried through decks *in watertight galvanized iron deck tubes*
 Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*
 If so, how are they protected *lead covered and armoured fixed close up to deck*
 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 cut outs for these lights fitted _____
 If in the spaces, how are they specially protected _____
 Are any switches or cut outs fitted in bunkers *no*
 Cargo light cables, whether portable or permanently fixed *portable* How fixed *in cast iron watertight boxes*
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *this 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 _____

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas _____
 Are any switches, cut outs, 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 installation is *now* supplied with a voltmeter and *also* an amperemeter, fixed *main switchboard*
 The copper used is guaranteed to have a conductivity of *100* per cent. that of pure copper.
 Insulation of cables is guaranteed to have a resistance of not less than *1000* megohms per statute mile after 24 hours' immersion in seawater.

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 CLARKE, CHAPMAN & Co. LTD.

Electrical Engineers Date *Nov 25th 1901*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Director 96 ft.*
 Distance between dynamo or electric motors and steering compass *90 ft.*
 The nearest cables to the compasses are as follows:—
 A cable carrying *4.8* Amperes *12* feet from standard compass *8* feet from steering compass
 A cable carrying *.6* Amperes *6* feet from standard compass *lighted up* feet from steering compass
 A cable carrying _____ Amperes _____ feet from standard compass _____ 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* courses in the case of the steering compass.

SIR W. G. ARMSTRONG WHITWORTH & Co. LTD. *Walker Johnston* Builder's Signature. Date *27th Nov 1901*

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules found satisfactory.

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

Committee's Minute _____

It is submitted that this installation appears to meet the Rule requirements.



Lloyd's Register
 Foundation
 13.12.01

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.