

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 45921.

Port of Newcastle-on-Tyne Date of First Survey Apr. 21<sup>st</sup> Date of Last Survey Sep 30 '03 No. of Visits 6  
 No. in Reg. Book 66 on the Iron Steel S/S of "Gangala" Port belonging to Adelaide  
 Built at Newcastle on Tyne By whom Sir W. G. Armstrong Whitworth & Co. When built 1900  
 Owners Adelaide S/S Co. Owners' Address Currie St. Adelaide S.A.  
 Yard No. 106 Electric Light Installation fitted by W. H. Allen, Son & Co. Ltd. When fitted 1900

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 9HP compound vertical open type double acting engines coupled direct to two multipolar 24 K.W. dynamo.

Capacity of Dynamo 240 Amperes at .100 Volts, whether continuous or alternating current continuous

Where ~~are~~ Dynamo fixed Engine Room, starting platform Starboard.

Position of Main Switch Board between dynamos having switches to groups 8 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each hull room, 1<sup>st</sup> class pantry, 2<sup>nd</sup> pantry, Smoke room, Entrance to Drawing Room, Engine Room, Wheelhouse.

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 yes.

Total number of lights provided for 398 arranged in the following groups :-

|                        |                    |       |  |               |         |
|------------------------|--------------------|-------|--|---------------|---------|
| A Navigation           | 91 lights each of  | 16 cp | candle power requiring a total current of        | 58.2          | Amperes |
| B Saloons              | 16 lights each of  | "     | candle power requiring a total current of        | 45.6          | Amperes |
| C Night Circuit        | 120 lights each of | "     | candle power requiring a total current of        | 72            | Amperes |
| D Main Deck            | 28 lights each of  | "     | candle power requiring a total current of        | 16.8          | Amperes |
| E " " Starboard        | 33 lights each of  | "     | candle power requiring a total current of        | 19.8          | Amperes |
| F Mach's spaces        | 44 " " "           | "     | candle power requiring a total current of        | 26.4          | Amperes |
| 2 Mast head light with | 1 lamps each of    | 32 cp | candle power requiring a total current of        | 2.4           | Amperes |
| 2 Side light with      | 1 lamps each of    | 32 cp | candle power requiring a total current of        | 2.4           | Amperes |
| 6 Cargo lights of      | 4 - 32 lights each | 32    | candle power, whether incandescent or arc lights | incandescent. |         |

If arc lights, what protection is provided against fire, sparks, &c. no arc lights.

Where are the switches controlling the masthead and side lights placed Wheelhouse (bridge).

### DESCRIPTION OF CABLES.

|                             |                            |                 |                             |                                    |
|-----------------------------|----------------------------|-----------------|-----------------------------|------------------------------------|
| Main cable carrying         | 240 Amperes, comprised of  | 37 wires, each  | 13 L.S.G. diameter, .2508.  | square inches total sectional area |
| Branch cables carrying      | 36.6 Amperes, comprised of | 19 wires, each  | 17 L.S.G. diameter, .0411   | square inches total sectional area |
| Branch cables carrying      | 19.8 Amperes, comprised of | 7 wires, each   | 16 L.S.G. diameter, .0229.  | square inches total sectional area |
| Leads to lamps carrying     | 3 Amperes, comprised of    | 1 wires, each   | 16 L.S.G. diameter, .00321  | square inches total sectional area |
| Cargo light cables carrying | 4.8 Amperes, comprised of  | 172 wires, each | 38 L.S.G. diameter, .004975 | square inches total sectional area |

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

Raw rubber, vulcanising India rubber; india rubber coated tape and the whole vulcanised together, then braided cotton and preservative compound. In strong wood casing.

Joints in cables, how made, insulated, and protected Twisted together and soldered with resin flux. Rubber, felt roxokrite tapes and varnished.

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.

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 in strong teak wood casing.



© 2020

Lloyd's Register Foundation

W732-0009

**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 casing. covering for same white leaded inside

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat lead served and armoured

What special protection has been provided for the cables near boiler casings lead served and armoured.

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

How are cables carried through beams fiber powder through bulkheads, &c. same way.

How are cables carried through decks in 9.2. deck tubes lashed with fibre standing 12" from deck.

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 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 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 -

**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 also supplied with a voltmeter and two ~~ampere~~ meters fixed on 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 600 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 W. H. ALLEN, SON & CO. L<sup>td</sup> Electrical Engineers Date 21<sup>st</sup> Oct 1903

**COMPASSES.**

Distance between dynamo or electric motors and standard compass about 100 feet direct line

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

The nearest cables to the compasses are as follows:—

|                  |            |         |           |  |           |                                     |
|------------------|------------|---------|-----------|--|-----------|-------------------------------------|
| A cable carrying | <u>0.6</u> | Amperes | <u>in</u> | <del>not</del> <u>6</u> feet from standard compass | <u>in</u> | <u>6</u> feet from steering compass |
| A cable carrying | <u>0.6</u> | Amperes | <u>6</u>  | feet from standard compass                         | <u>6</u>  | 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

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. L<sup>td</sup> Builder's Signature. Date 23<sup>rd</sup> October 1903

**GENERAL REMARKS.**

Maxton date  
 This installation appears to have been fitted in a satisfactory manner and in accordance with the rules.  
G. A. Saker

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

Committee's Minute

It is submitted that this installation appears to be satisfactory



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

FOR T1

201

REPORT FORM No. 13.