

OCT. 27 OCT 1903

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 45921.

Port of Newcastle-on-Tyne Date of First Survey Apr. 2nd Date of Last Survey Sep 30 '03 No. of Visits 6
 No. in Reg. Book 66 on the ~~Iron~~ Steel S/S "Longala" Port belonging to Adelaide
 Built at Newcastle-on-Tyne By whom Sir W. G. Armstrong Whitworth & Co. When built 1903
 Owners Adelaide S/S Co. Owners' Address Currie St. Adelaide S.A.
 Yard No. 136 Electric Light Installation fitted by W. H. Allen, Son & Co. Ltd. When fitted 1903

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 9 H.P. 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 ~~the~~ ^{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 Mess Room, 1st class pantry, 2nd 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 St. Port	28 lights each of	"	candle power requiring a total current of	16.8	Amperes
E " Starboard	20 lights each of	"	candle power requiring a total current of	19.8	Amperes
F Machy 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 x 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.

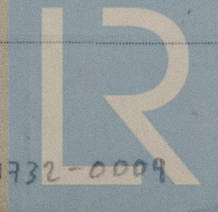
Raw rubber, vulcanising India rubber; india rubber coated tape and the whole vulcanised together, then braided cotton and preservative compound. In strong wood casing.

Joints in cables, how made, insulated, and protected Twisted together and soldered with resin flux. Rubber, felt roxokite 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 oak wood casing.



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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 2.2. deck tubes hooked 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* ~~amperemeters~~ *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^{td} Electrical Engineers

Date *21st 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 *6* Amperes *in* ~~not from~~ standard compass *in* ~~not from~~ steering compass

A cable carrying *5.6* Amperes *6* feet from standard compass *6* 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^{td}

Builder's Signature.

Date *23rd October 1903*

GENERAL REMARKS.

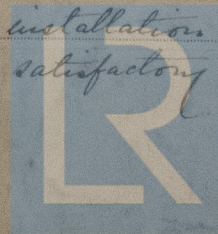
This installation appears to have been fitted in a satisfactory manner and in accordance with the rules.

G. A. Lake

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

Committee's Minute

It is submitted that this installation appears to be satisfactory



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.