

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6722

Port of *Dundee* Date of First Survey *24th Jan* Date of Last Survey *26th Feb* No. of Visits *12*
 No. in Reg. Book on the *Steel* *S. S. "Tinana"* Port belonging to *Adelaide*
 Built at *Dundee* By whom *Caledon & Co. Eng. Co.* When built *1901*
 Owners *Australian United M. Nav. Co.* Owners' Address *London E. C.*
 Yard No. *158* Electric Light Installation fitted by *Messrs W. C. Martin & Co.* When fitted *1901*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One compound wound dynamo coupled direct to single cylinder engine, speed 360 Rev per minute

Capacity of Dynamo *40* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *starting platform, starboard side of engine room*

Position of Main Switch Board *Engine Room* having switches to groups *A, B & C.* of lights, &c., as below

Positions of auxiliary switch boards and numbers of ~~switches~~ ^{fuses} on each Circuit *A in saloon 2 boxes of 5 each; B in engine room 3 boxes having 6, 7 and 8 fuses; C in chart house one box with one switch and 4 fuses*

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 ~~not reduced~~ *not branched* 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 - wire* 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 *54 - 16 cp* arranged in the following groups:—

A	<i>Saloon (aft)</i>	lights each of	<i>10 of 16</i>	candle power requiring a total current of	<i>6</i>	Amperes
B	<i>Engine Room</i>	lights each of	<i>20 " 16</i>	candle power requiring a total current of	<i>12</i>	Amperes
C	<i>Forward</i>	lights each of	<i>24 " 16</i>	candle power requiring a total current of	<i>18</i>	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	<i>Mast head light with</i>	<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>1.2</i>	Amperes
2	<i>Side lights with</i>	<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.4</i>	Amperes
2	<i>Cargo lights</i>	<i>each having 6 lamps of 16</i>	<i>candle power, whether incandescent or are lights</i>	<i>incandescent</i>		

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 *in chart house*

DESCRIPTION OF CABLES.

Main cable carrying *36* Amperes, comprised of *19* wires, each *18* L.S.G. diameter, *.0344* square inches total sectional area

Branch cables carrying *12* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, *.0127* square inches total sectional area

Branch cables carrying *18* Amperes, comprised of *19* wires, each *20* L.S.G. diameter, *.0194* 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 *3.6* Amperes, comprised of *7* wires, each *20* L.S.G. diameter, *.0073* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure rubber, a separator, vulcanized india-rubber, India-rubber coated tape the whole vulcanized together strongly braided

A number of the cables armoured with galvanized wire

Joints in cables, how made, insulated, and protected *none*

No joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *none* 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 wood casings in saloon and chart house. Armoured cable at all other parts except bunkers and holds where they are run in strong iron pipes*

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 *armoured wire*

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

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

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

How are cables carried through beams *fibre ferrules* through bulkheads, &c. *W.T. Brass glands*

How are cables carried through decks *iron pipes*

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

If so, how are they protected *In strong iron pipes*

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 *Brass terminals*

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

How are the returns from the lamps connected to the hull *✓*

Are all the joints with the hull in accessible positions *✓*

is NOT
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 supplied with a voltmeter and *also* an amperemeter, fixed *Main switch board*

The copper used is guaranteed to have a conductivity of *98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2000* 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.

W.C. Martin & Co Electrical Engineers

Date *25th Feb 1901*

COMPASSES.

Distance between dynamo or electric motors and standard compass *120 feet*

Distance between dynamo or electric motors and steering compass *120 feet*

The nearest cables to the compasses are as follows:— *Double wired*

A cable carrying <i>18</i>	Ampères <i>20</i>	feet from standard compass <i>20</i>	feet from steering compass
A cable carrying <i>12</i>	Ampères <i>20</i>	feet from standard compass <i>20</i>	feet from steering compass
A cable carrying	Ampères	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 *nil* course in the case of the standard compass and *nil* degrees on *nil* course in the case of the steering compass.

Chas Smith Builder's Signature. Date *26th Feb 1901*

GENERAL REMARKS. *This installation has been fitted in accordance with the Rules the materials and workmanship are good and render the vessel eligible in my opinion to have the notation of "Electric Light" in the Register Book*

Wm Morrison

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

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.