

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4982

Port of *Aburdeen* Date of First Survey *June 5th* Date of Last Survey *July 12th* No. of Visits *8*
 No. in Reg. Book *574* on the Iron or Steel *S.S. "Saint-Clair"* Port belonging to *Aburdeen*
 Built at *Glasgow* By whom *Randolph Blair & Co* When built *1868*
 Owners *R. of Scotland Oil & Shot & Shells* Owners Address *✓*
 Yard No. *✓* Electric Light Installation fitted by *Mr. M. C. Martin & Co* When fitted *1895*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Langye's vertical Engine one cylinder
Woodside Dynamo
 Capacity of Dynamo *90* Amperes at *100* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *On the Port side of the Engine Room Platform*
 Position of Main Switch Board *On aft end of Rudder* having switches to groups *4* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each
Fitted on the Distributing Box Principle
 If cut outs are fitted on main switch board to the cables of main circuit *Yes* and on each auxiliary switch boards 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 *✓* 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 *63* *not counting mast & side lights* arranged in the following groups:—
 A *Saloon* *24* lights each of *21* *32* candle power requiring a total current of *15* Amperes
 B *Officers Quarters* *18* lights each of *16* candle power requiring a total current of *7* Amperes
 C *Holds* *8* lights each of *16* candle power requiring a total current of *5* Amperes
 D *Engine Room* *13* lights each of *16* candle power requiring a total current of *6 1/2* Amperes
 E lights each of *double filament* candle power requiring a total current of *Amperes*
Mast Mast head light with *one* lamps each of *32* candle power requiring a total current of *1.2* Amperes
Two Side light with *one* lamps each of *32* candle power requiring a total current of *1.2* Amperes
Two Cargo lights of *64* candle power, whether incandescent or arc lights *Incandescent*
 If arc lights, what protection is provided against fire, sparks, &c. *No arc lights fitted*

Where are the switches controlling the masthead and side lights placed

on the Bridge and fitted with patent Indicators.

DESCRIPTION OF CABLES.

Main cable carrying Amperes, comprised of *19* wires, each *16* L.S.G. diameter, square inches total sectional area
 Branch cables carrying *15* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, square inches total sectional area
 Branch cables carrying *7* Amperes, comprised of *7* wires, each *20* L.S.G. diameter, square inches total sectional area
 Leads to lamps carrying *64* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, square inches total sectional area
 Cargo light cables carrying *✓* Amperes, comprised of *✓* wires, each *✓* L.S.G. diameter, square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized India Rubber and Braiding

Joints in cables, how made, insulated, and protected *Soldered with resin as a flux and insulated with pure rubber strip & prepared tape*

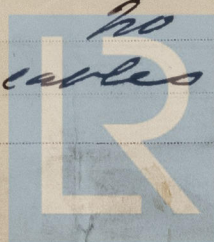
Are all the joints of cables thoroughly soldered, resin only having been used as a flux *Yes* Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage *Yes*

Are there any joints in or branches from the cable leading from dynamo to main switch board

How are the cables led through the ship, and how protected

Armoured cables in heavy 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 *Protected by armoured cable*

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

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

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

How are cables carried through beams *do* through bulkheads, &c. *do*

How are cables carried through decks *Watertight - 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 *By armoured cable*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Lamps in Hold only*

If so, how are the lamp fittings and cable terminals specially protected *Cast Iron boxes*

Where are the main switches and cut outs for these lights fitted *In the Engine Room*

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers *do*

Cargo light cables, whether portable or permanently fixed *Permanently fixed* How fixed *by Iron tubes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Fitted on the 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 supplied with a voltmeter and an amperemeter, fixed

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 *1200* 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
34 2 Argyle St Glasgow.

Electrical Engineers

Date *July 12th 95*

COMPASSES.

Distance between dynamo or electric motors and standard compass *50 feet*

Distance between dynamo or electric motors and steering compass *50 "*

The nearest cables to the compasses are as follows :—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>3</i>	<i>8</i>	<i>8</i>	<i>8</i>
<i>1 1/2</i>	<i>6</i>	<i>6</i>	<i>6</i>
<i>-</i>	<i>✓</i>	<i>-</i>	<i>-</i>

Have the compasses been adjusted with and without the electric installation at work at full power *No*

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.

Hall Russell & Co.

Builder's Signature

Date *3rd Aug 1895*

GENERAL REMARKS.

The Electric Lighting Installation on this vessel was formerly on the single wire system and has now been reconstructed on the double wire plan. The workmanship etc appears to conform to the requirements of the rules.

Maurice Pitson

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

Committee's Minute



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Recd of Elec Light app. in MR. Some time ago

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.