

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5649.

Port of Aberdeen Date of First Survey Sept 9th Date of Last Survey Sept 4th No. of Visits 12
 No. in Reg. Book 140 on the Iron or Steel S.S. "Angeli" Port belonging to Aberdeen
 Built at Aberdeen By whom Hull Russell & Co When built 1897
 Owners J. S. Rennie & Sons Owners Address Manichal St - Aberdeen
 Ywd No. 303 Electric Light Installation fitted by Claud Hamilton & Co When fitted 1897

DESCRIPTION OF DYNAMO, ENGINE, ETC.

High Spud inverted vertical engine coupled to compound wound dynamo on same bedplate.

Capacity of Dynamo 200 Amperes at 60 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed in Engine room

Position of Main Switch Board in Engine room having switches to groups A, B, C, D & E. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none

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 ✓ and at each position where a cable is branched or reduced in size ✓ and to each lamp circuit yes

If cessel 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, in boxes 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, on marble or porcelain

Total number of lights provided for 183 arranged in the following groups :-

A	<u>68</u>	lights each of <u>67¹/₂ C.P. + 1-32 C.P.</u>	candle power requiring a total current of	<u>59</u>	Amperes
B	<u>33</u>	lights each of <u>26 " + 7-32 C.P.</u>	candle power requiring a total current of	<u>34</u>	Amperes
C	<u>38</u>	lights each of <u>4, 8, 2, 30, 6, 4, 32 C.P.</u>	candle power requiring a total current of	<u>34</u>	Amperes
D	<u>17</u>	lights each of <u>9-16 C.P. + 8-32 C.P.</u>	candle power requiring a total current of	<u>21</u>	Amperes
E	<u>27</u>	lights each of <u>16</u>	candle power requiring a total current of	<u>23</u>	Amperes
	<u>1</u>	Mast head light with <u>1</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
	<u>2</u>	Side light with <u>1</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>4</u>	Amperes
	<u>2</u>	Cargo lights of <u>5 lamps each of 32</u>	candle power, whether incandescent or arc lights <u>incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed Plugs fitted in watertight boxes on deck

DESCRIPTION OF CABLES.

Main cable carrying	<u>171</u> Amperes, comprised of <u>37</u> wires, each <u>N^o 14</u> L.S.G. diameter,	<u>186</u> <u>1909</u> square inches total sectional area
Branch cables carrying	<u>59</u> Amperes, comprised of <u>19</u> wires, each <u>N^o 16</u> L.S.G. diameter,	<u>0624</u> <u>0612</u> square inches total sectional area
Branch cables carrying	<u>34</u> Amperes, comprised of <u>19</u> wires, each <u>N^o 18</u> L.S.G. diameter,	<u>0349</u> <u>0344</u> square inches total sectional area
Leads to lamps carrying	<u>1</u> Amperes, comprised of <u>1</u> wires, each <u>N^o 17</u> L.S.G. diameter,	<u>0024</u> square inches total sectional area
Cargo light cables carrying	<u>8</u> Amperes, comprised of <u>108</u> wires, each <u>N^o 38</u> L.S.G. diameter,	<u>0032</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

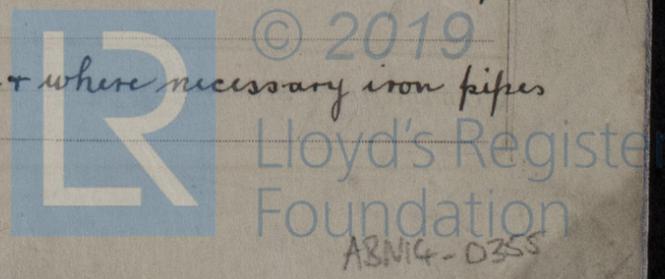
Conductors of tinned copper wires insulated with pure india rubber then vulcanised I. R., I. R. Coated Tape & the whole vulcanised together, then braided tarred flax, & coated with preservative compound.

Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux No joints 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 No wires in such places

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 hard wood casing & where necessary iron pipes



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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 Iron Pipes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Hard Wood Casing

What special protection has been provided for the cables near boiler casings Hard Wood Casing

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

How are cables carried through beams in wooden thimbles through bulkheads, &c. None through bulkheads

How are cables carried through decks in iron pipes

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 efficiently supplied with a voltmeter and also an amperemeter, fixed on switchboard

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 600 megohms per statute mile after 24 hours' immersion in seawater. all of Silvertown Make

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.

Electrical Engineers Date 27th Oct 1897

Clara Hamilton?

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 ft.

Distance between dynamo or electric motors and steering compass 40 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>59</u>	Amperes	<u>40</u>	feet from standard compass	<u>45</u>	feet from steering compass
A cable carrying	<u>34</u>	Amperes	<u>110</u>	feet from standard compass	<u>25</u>	feet from steering compass
A cable carrying	<u>✓</u>	Amperes	<u>—</u>	feet from standard compass	<u>✓</u>	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 no degrees on each course in the case of the standard compass and no degrees on each course in the case of the steering compass.

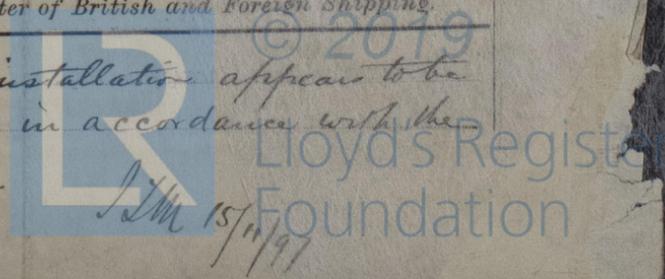
Hall Russell & Co. Builder's Signature Date

GENERAL REMARKS. This installation is fitted by us all material & workmanship being of the very best.

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

Committee's Minute This installation appears to be fitted in accordance with the Rules.

= 50 abt S.A.H.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.