

Bel 4926

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. C

Port of Belfast Date of First Survey _____ Date of Last Survey 31st Dec 98 No. of Visits _____
 No. in Reg. Book on the Iron or Steel S.S. "Mombattan" Port belonging to Belfast
 Built at Belfast By whom Harland & Wolff Ltd When built 1898
 Owners Atlantic Transport Co Owners' Address _____
 Yard No. C Electric Light Installation fitted by W. A. Allen, Son & Co When fitted 1898

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Combined sets of Allen's compound wound dynamo and their vertical type single cylinder engines

Capacity of Dynamo 77 Amperes at 102 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed on bottom platform between thrust blocks of main engines

Position of Main Switch Board tunnel bulkhead 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 one placed at entrance to engine room controlling cat's lights on upper & main decks having 11 switches

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 pure tin chloride and constructed to fuse at an excess of 25 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 state porcelain

Total number of lights provided for 213 arranged in the following groups :-

A	<u>42</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>25.2</u>	Amperes	
B	<u>45</u>	lights each of	<u>42 of 16. 3 of 32</u>	candle power requiring a total current of	<u>28.8</u>	Amperes	
C	<u>30</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>18.0</u>	Amperes	
D	<u>48</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>28.8</u>	Amperes	
E	<u>48</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>28.8</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>1.2</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>2.4</u>	Amperes
<u>8</u>	Cargo lights of			<u>96</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 Chart Room on Bridge

DESCRIPTION OF CABLES.

Main cable carrying 77 Amperes, comprised of 37 wires, each 16 L.S.G. diameter, .119 square inches total sectional area

Branch cables carrying 28.8 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0344 square inches total sectional area

Branch cables carrying 18 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0225 square inches total sectional area

Leads to lamps carrying 6 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .0032 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .0041 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

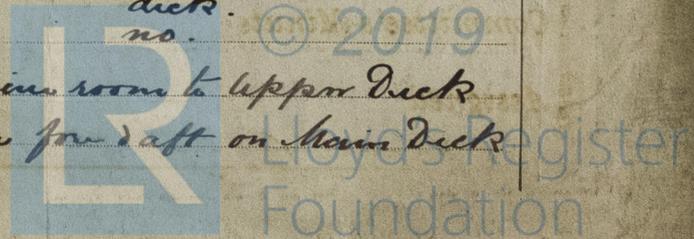
Cables are insulated with pure Para Rubber Vulcanising Rubber India Rubber Proofed tape. The whole being vulcanised together finally braided and compounded.

Joints in cables, how made, insulated, and protected The joints are twisted according to shape required and soldered being insulated with pure Para rubber felt tape or oyster shell tape to required thickness and painted with insulating varnish

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 some small joints are made on main deck.

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 All mains pass up engine room to upper Deck being armoured clipped to bulkhead from thence the run for aft on Main Deck being carried in strong wood casing.



BEL69-0084

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *if cargo is put on main deck they are now otherwise they are*
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *strong wood casing*

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

What special protection has been provided for the cables near boiler casings *Lead sheathed & armoured cables clipped to bulkheads*

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

How are cables carried through beams *holes are bored with $\frac{3}{8}$ fibre through bulkheads, &c. bulkhead nipples*

How are cables carried through decks *g.i. duct pipes made watertight*

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

If so, how are they protected *strong wood casing screwed close up to ducts protected by cross beams*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *yes on main deck (coal bin)*

If so, how are the lamp fittings and cable terminals specially protected *in tank covers all these lights being portable*

Where are the main switches and cut outs for these lights fitted *at entrance to engine room*

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 *W. H. Allen Son's 6° coupler*

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

How are the returns from the lamps connected to the hull *soldered to the head of $\frac{3}{8}$ brass screws tapped into the iron of ship*

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

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* supplied with a voltmeter and _____ an amperemeter, fixed *on main switch*

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 *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.

For **W. H. ALLEN, SON & CO** *W. H. Allen* Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass *109 feet*

Distance between dynamo or electric motors and steering compass *104 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>4.8</i>	<i>10</i>	<i>12</i>	
<i>18</i>	<i>20</i>	<i>21</i>	

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 *all* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

Builder's Signature. Date _____

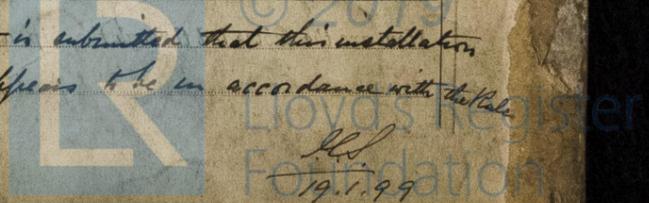
GENERAL REMARKS.

The Electric Light installation as above has now been completed here and when tried was found satisfactory.

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

Committee's Minute

It is submitted that this installation appears to be in accordance with the Rules



10 only sent

REVIEWERS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 17.