

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of *Belfast* Date of First Survey *26th Aug* Date of Last Survey *8th October* No. of Visits *8*
 No. in Reg. Book on the *Iron or Steel* *S.S. "Destyshire"* Port belonging to *Liverpool*
 Built at *Belfast* By whom *Harland & Wolff Ltd* When built *1894*
 Owners *The Bibby Steam Ship Co Ltd.* Owners' Address
 Yard No. *314* Electric Light Installation fitted by *W. H. Allen, Son & Co Ltd* When fitted *1894*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Combined sets of W. H. Allen, Son & Co's compound engines & dynamos

Capacity of Dynamo *200* Amperes at *62* Volts, whether continuous or alternating current *Continuous*
 Where is Dynamo fixed *Bottom platform of engine room between main engine thrust blocks.*
 Position of Main Switch Board *Forward bulkhead* having switches to groups *A B H* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each

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 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

Cut outs of non-oxidizable metal *Copper on main board* and constructed to fuse at an excess of *50* per cent over the normal current
 Cut outs fitted in easily accessible positions *yes* Are the fuses of standard dimensions *yes* If wire fuses are used

Permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit *yes*

Are switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *yes*

Total number of lights *provided for* *298* arranged in the following groups:—

<i>59</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>59</i>	Amperes
<i>60</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>60</i>	Amperes
<i>35</i>	lights each of	<i>32 32 4</i>	candle power requiring a total current of	<i>38</i>	Amperes
<i>30</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>30</i>	Amperes
<i>34</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>34</i>	Amperes
<i>1</i>	Mast head light with	<i>1</i> lamps each of <i>32</i>	candle power requiring a total current of	<i>2</i>	Amperes
<i>2</i>	Side light with	<i>2</i> lamps each of <i>32</i>	candle power requiring a total current of	<i>4</i>	Amperes
<i>6</i>	Cargo lights of	<i>64</i>	candle power, ^{each} whether incandescent or are lights <i>incandescent</i>		

Are lights, what protection is provided against fire, sparks, &c. *The arc is protected with clear glass globe carried in a strong brass carrier securely attached to body of lamp.*

Where are the switches controlling the masthead and side lights placed *In Chart house of Bridge amidships*

DESCRIPTION OF CABLES. *from dynamos to switchboard only.*

in cable carrying	<i>200</i> Amperes, comprised of	<i>37</i> wires, each	<i>14</i> L.S.G. diameter,	<i>.186</i> square inches total sectional area
inch cables carrying	<i>60</i> Amperes, comprised of	<i>19</i> wires, each	<i>16</i> L.S.G. diameter,	<i>.0612</i> square inches total sectional area
inch cables carrying	<i>35</i> Amperes, comprised of	<i>19</i> wires, each	<i>18</i> L.S.G. diameter,	<i>.0344</i> square inches total sectional area
ads to lamps carrying	<i>1</i> Amperes, comprised of	<i>1</i> wires, each	<i>16</i> L.S.G. diameter,	<i>.00322</i> square inches total sectional area
go light cables carrying	<i>4</i> Amperes, comprised of	<i>145</i> wires, each	<i>38</i> L.S.G. diameter,	<i>.0041</i> square inches total sectional area

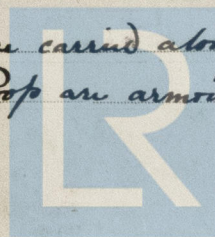
DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulation of all cables is of 2000 mugs and these are carried in wood casing throughout the ship being specially protected in leak wood casing in damp places. The covering of cables consists of pure Para rubber, 2 coats vulcanizing rubber, 1 P.R. proofed tape. The whole vulcanized compounded & braided. Wires are stranded together and soldered. They are then recovered with felt tape pure rubber tape opokurite tape and finally 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 *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 *From the chart house are carried along main deck on port side in wood casing and along lower deck to forecath. From the Poop are armoured cables taken along deck and up through piping to aft deck house and poop.*



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 *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 *armoured & lead sheathed cables run in g.i. pipes*

What special protection has been provided for the cables in engine room *armoured & lead sheathed cables clipped to bulkheads*

How are cables carried through beams *holes bushed with $\frac{1}{2}$ " fibre fasteners* through bulkheads, &c. glands bushed with fibre

How are cables carried through decks *R.D. duct pipes made watertight*

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

If so, how are they protected *in wood casing carried in channel iron*

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

Cargo light cables, whether portable or permanently fixed *portable* How fixed *Concentric metal couples*

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

How are the returns from the lamps connected to the hull *$\frac{5}{8}$ " brass with 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 with a voltmeter and 2 amperemeters fixed on main board*

of Connelley's type

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.

W. Allen & Co.

Electrical Engineers

Date

October 18/97

COMPASSES.

Distance between dynamo or electric motors and standard compass *110 ft.*

Distance between dynamo or electric motors and steering compass *120 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
1	1	1	1
12	10	6	6
6	4	6	6

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

Harland & Wolff & Co.

Builder's Signature.

Date

21 Oct '97

GENERAL REMARKS.

This ship is fitted with a complete Suez Canal plant consisting of 2 Arc lanterns & 1 Projector. The arc lamps may be attached to either the Poop, Forecastle or Midship Bridge

A. L. Jones

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules

so also said

L.M.
28/10/97

Lloyd's Register
Foundation

REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 1.