

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5599

Port of *Belfast* Date of First Survey *Apr 23* Date of Last Survey *May 20* No. of Visits *8*  
 No. in Reg. Book on the *Iron of Steel* Port belonging to *W. H. Allen & Son Ltd*  
 Built at *Belfast* By whom *W. H. Allen & Son Ltd* When built *1903*  
 Owners *W. H. Allen & Son Ltd* Owners' Address *Newspool*  
 Yard No. *199* Electric Light Installation fitted by *W. H. Allen & Son Ltd* When fitted *1903*

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

*One Single Cylinder Engine Coupled direct to one bipolar dynamo.*

Capacity of Dynamo *150* Amperes at *62* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *Middle platform Starboard side over stow.*

Position of Main Switch Board *alongside dynamo* having switches to groups *A, B, C, D* 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 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 where double wired.*

Are the cut outs of non-oxidizable metal *Yes* and constructed to fuse at an excess of *100* 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*

Total number of lights provided for *121* arranged in the following groups:—

A	<i>Capt. Accomts</i>	<i>35</i> lights each of	<i>16</i> candle power requiring a total current of	<i>35</i> Amperes
B	<i>Forecastle Prop</i>	<i>15</i> lights each of	<i>16</i> candle power requiring a total current of	<i>15</i> Amperes
C	<i>Machy. Spaces</i>	<i>35</i> lights each of	<i>16</i> candle power requiring a total current of	<i>35</i> Amperes
D	<i>Cue Stays</i>	<i>36</i> lights each of	<i>16</i> candle power requiring a total current of	<i>36</i> Amperes
E		lights each of	candle power requiring a total current of	Amperes
	<i>1</i>	<i>Mast head light with 1 lamp each of</i>	<i>32</i> candle power requiring a total current of	<i>2</i> Amperes
	<i>2</i>	<i>Side light with 1 lamps each of</i>	<i>32</i> candle power requiring a total current of	<i>4</i> Amperes
	<i>6</i>	<i>Cargo lights of 6 x 16 = 96</i>	<i>6 x 16 = 96</i> candle power, whether incandescent or arc lights <i>Incandescent</i>	

If arc lights, what protection is provided against fire, sparks, &c. *Also 3-25A. Arc lamps with heavy brass framed lanterns, plate glass panes & wire nets for same*

Where are the switches controlling the masthead and side lights placed *in wheelhouse on bridge*

**DESCRIPTION OF CABLES.**

Main cable carrying *150* Amperes, comprised of *37* wires, each *14* L.S.G. diameter, *.190* square inches total sectional area

Branch cables carrying *35* Amperes, comprised of *19* wires, each *18* L.S.G. diameter, *.035* square inches total sectional area

Branch cables carrying *7* Amperes, comprised of *7* wires, each *20* L.S.G. diameter, *.007* square inches total sectional area

Leads to lamps carrying *3* Amperes, comprised of *1* wires, each *16* L.S.G. diameter, *.0032* square inches total sectional area

Cargo light cables carrying *6* Amperes, comprised of *145* wires, each *38* L.S.G. diameter, *.0024* square inches total sectional area

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

*Wires insulated with layers of pure vulc. rubber, protected with strong braiding of hemp, then lead sheathed, served with jute & finally covered with galv. steel armouring.*

Joints in cables, how made, insulated, and protected *None except in rooms these are soldered, insulated with pure rubber & Bakelite tape & then varnished*

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 *In galv. iron pipe laid on shell deck midships, thence forward raft clipped to bulwarks, cables lead sheathed & armoured.*

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 Leadsheathed  
Served & Armoured wire employed  
What special protection has been provided for the cables near galleys or oil lamps or other sources of heat stump wood casing  
What special protection has been provided for the cables near boiler casings Leadsheathed, Served & Armoured  
What special protection has been provided for the cables in engine room " " "  
How are cables carried through beams None through beams through bulkheads, &c. Brass Glands  
How are cables carried through decks All in piping on decks  
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 —  
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 brass socket and dynamo plate piece  
How are the returns from the lamps connected to the hull to brass earth screw  
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 (1) supplied with a voltmeter and (1) an amperemeter, fixed on switchboard  
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 2500 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.

J. W. H. Allen, Jnr & Co. Ltd  
C. P. Hunter. Electrical Engineers Date 14/5/03

COMPASSES.

Distance between dynamo or electric motors and standard compass about 100 feet  
Distance between dynamo or electric motors and steering compass " " "  
The nearest cables to the compasses are as follows:—  
A cable carrying 7 Amperes 18 feet from standard compass 10 feet from steering compass  
A cable carrying (all wiring in vicinity of compasses) feet from standard compass feet from steering compass  
A cable carrying in double wire system 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 every course in the case of the standard compass and nil degrees on every course in the case of the steering compass.

R. J. Beveridge Builder's Signature. Date 18th May 1903

GENERAL REMARKS.

This installation is of good description and has been fitted in accordance with the Rules.

R. J. Beveridge  
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.

REPORT FORM No. 14.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

