

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6331

Port of Belfast Date of First Survey Mar 6 Date of Last Survey May 7 No. of Visits 9  
 No. in Reg. Book 106 on the Iron or Steel "S.S. Fulani" Part belonging to Liverpool  
 Built at Belfast By whom Harland & Wolff L. When built 1907  
 Owners Edw. Dempster & Co Owners' Address Liverpool  
 Yard No. 106 Electric Light Installation fitted by W.H. Allen & Son Ltd When fitted 1907

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

One engine having cylinder 8" diameter by 7" stroke coupled direct to one four pole compound wound dynamo  
 Capacity of Dynamo 170 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed on starting platform starboard side

Position of Main Switch Board Starboard side starting platform (near dynamo) having switches to groups A, B, C, D, E, F, G, 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 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 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 180 arranged in the following groups:—

A Signals Saloon	43 lights each of	16	candle power requiring a total current of	25.8	Amperes
B Forecastle	20 lights each of	16	candle power requiring a total current of	12.0	Amperes
C Personnel	20 lights each of	16	candle power requiring a total current of	12.0	Amperes
D Poop	19 lights each of	16	candle power requiring a total current of	11.4	Amperes
E Machinery spaces	42 lights each of	16	candle power requiring a total current of	25.2	Amperes
F Cargo lights as under	lights each of	—	candle power requiring a total current of	19.2	Amperes
G Wake light	lights each of	—	candle power requiring a total current of	25.0	Amperes
H Arc light	lights each of	—	candle power requiring a total current of	25.0	Amperes
2 Mast head lights with 1 lamp each of		32	candle power requiring a total current of	1.2	Amperes
2 Side lights with 1 lamp each of		32	candle power requiring a total current of	1.2	Amperes
4 Cargo lights of each of eight		16	candle power, whether incandescent or arc lights	incandescent	

If are lights, what protection is provided against fire, sparks, &c. 2 arc lamps totally enclosed in iron framed lanterns with glass sides and protected with suitable wire guards

Where are the switches controlling the masthead and side lights placed in wheelhouse under Bridge

**DESCRIPTION OF CABLES.**

Main cable carrying	120 Amperes, comprised of	37 wires, each	16 L.S.G. diameter,	.1176 square inches total sectional area
Branch cables carrying	25 Amperes, comprised of	7 wires, each	15 L.S.G. diameter,	.02822 square inches total sectional area
" " "	19.2 " " "	7 " " "	16 " " "	.02227 " " "
Branch cables carrying	11.4 Amperes, comprised of	4 wires, each	18 L.S.G. diameter,	.01254 square inches total sectional area
Leads to lamps carrying	3 Amperes, comprised of	1 wires, each	16 L.S.G. diameter,	.003217 square inches total sectional area
Cargo light cables carrying	4.8 Amperes, comprised of	145 wires, each	38 L.S.G. diameter,	.0042 square inches total sectional area

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

The conductor is tinned, covered with one layer pure Para rubber, then two layers of vulcanizing rubber, the whole vulcanized together and finally taped and braided. In machinery spaces the wires after vulcanizing are lead covered, served and spirally armoured with G.I. wires. Joints in cables, how made, insulated, and protected thoroughly soldered, insulated with two layers pure Para rubber, two layers prepared tape and 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 strong wood casing, except in holds where they are enclosed in galvanised iron piping



**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 lead covered and externally braided, in iron pipes where necessary

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat None near undue heat

What special protection has been provided for the cables near boiler casings lead covered, served, and spirally armoured

What special protection has been provided for the cables in engine room with G.I. wires

How are cables carried through beams in fibre ferrules through bulkheads, &c. in fibre ferrules

How are cables carried through decks in G.I. pipes bushed with fibre

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

If so, how are they protected in G.I. pipe

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 screwed to yoke of magnet

How are the returns from the lamps connected to the hull soldered to 3/8" brass cheesehead earth screws

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 — 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.

*For W.H. Allen Son & Co. Ltd.*

J. W. Parvian

Electrical Engineers

Date 4th July 1907

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 82 feet

Distance between dynamo or electric motors and steering compass 89 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>10.8</u>	Amperes	<u>10</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying		Amperes	<u>The above doublewired</u>	feet from standard compass		feet from steering compass
A cable carrying		Amperes		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.

*For Harland & Wolff Ltd.*

Builder's Signature.

Date

9th July 1907

**GENERAL REMARKS.**

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

R. J. Devenish

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.