

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6277

Port of *Belfast* Date of First Survey *Nov. 2<sup>nd</sup>* Date of Last Survey *Jan. 2<sup>nd</sup>* No. of Visits *11*  
No. in on the *Iron & Steel* *S.S. Shure* Port belonging to *London*  
Reg. Book Built at *Belfast* By whom *Harland & Wolff L<sup>r</sup>* When built *1907*  
Owners *British & Mercantile S. N. Co. L<sup>r</sup>* Owners' Address *Liverpool*  
Yard No. *363* Electric Light Installation fitted by *W. H. Allen & Son & Co. L<sup>r</sup>* 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 ..... 12.0 ..... 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 Harpur 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	" " "	16	" " " " " "	12.0	" "
D Poop	19	lights each of	16	candle power requiring a total current of	11.4	Amperes
E Machinery spaces	42	" " "	16	" " " " " "	25.2	" "
F Cargo lights as under		lights each of	8 of 16	candle power requiring a total current of	19.2	Amperes
G Arc light		" " "	"	" " " " " "	25.0	" "
H Arc light		lights each of	"	candle power requiring a total current of	25.0	Amperes
2 Mast head lights with	1	lamps each of	32	candle power requiring a total current of	1.2	Amperes
2 Side lights with	1	lamps each of	32	candle power requiring a total current of	1.2	Amperes
H		Cargo lights of each of	8 - 16	candle power, whether incandescent or arc lights	incandescent.	

If are lights, what protection is provided against fire, sparks, &c. 2 are lamps totally enclosed in iron framed lanterns with glass sides 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. diame'cr, **.02822** square inches total sectional area

Branch cables carrying 19.2 Amperes, comprised of 27 wires, each 16 L.S.G. diameter, .01227 square inches total sectional area

Leads to lamps carrying 3 Amperes, comprised of 1 wire, ~~each~~ 16 L.S.G. diameter, .003217 square inches total sectional area

Leads to lamps carrying 3 Amperes, comprised of 1 wire, 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 & finally taped & braided. In machine spacers the wires after vulcanizing are lead covered & served & specially 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 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 Galvanized 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 & occasionally braided, in iron pipes when necessary

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

What special protection has been provided for the cables near boiler casings } lead covered & saved especially

What special protection has been provided for the cables in engine room } armoured with 45 wires

How are cables carried through beams in fire funnels through bulkheads, &c. in fire funnels

How are cables carried through decks in S. D. pipes lashed with fine

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 S. D. 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 screwed to 3/8" brass cut and 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

A. W. Parkinson

Electrical Engineers

Date 12. 3. 07

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	Amperes	feet from standard compass	feet from steering compass
<u>10.8</u>	<u>10</u>	<u>6</u>	<u>6</u>
A cable carrying	Amperes	<u>He above is from double compass</u>	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 18th March 1907

GENERAL REMARKS.

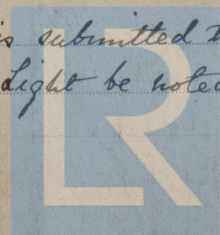
This installation appears to be of good description throughout, and has been fitted in accordance with the Rules.

R. D. Denny

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

Committee's Minute

It is submitted that the Record Rec. Light be noted in the Reg. Book



Lloyd's Register of Shipping

22.3.07

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.