

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8237

Port of *Belfast* Date of First Survey *Aug 18* Date of Last Survey *Sep 18* No. of Visits *6*  
 No. in Reg. Book *on the Iron or Steel PS. New Texas* Port belonging to *Liverpool*  
 Built at *Belfast* By whom *Harland & Wolff L<sup>ds</sup>* When built *1919*  
 Owners *Elder Dempster & Co L<sup>ds</sup>* Owners' Address *Liverpool*  
 Yard No. *559* Electric Light Installation fitted by *Harland & Wolff L<sup>ds</sup>* When fitted *1919*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*One Enclosed forced lubrication, Single Cylinder Engine 5 1/2" x 5" Stroke. 520 R.P.M. S/C to 10 Kw. Dynamo.*

Capacity of Dynamo *100* Amperes at *100* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *in Engine Room* Whether single or double wire system is used *Double*

Position of Main Switch Board *in Engine Room* 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 *none fitted.*

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 *167* arranged in the following groups:—

A *Navigation* 5 lights each of *32 C.P. + 5 " of 8* candle power requiring a total current of *9.1* Amperes

B *Cabin Crew* 93 lights each of *16 C.P.* candle power requiring a total current of *18.6* Amperes

C *Engine Room* 32 lights each of *24 C.P.* candle power requiring a total current of *9.6* Amperes

D *Cargo* 30 lights each of *16 + 2 of 1000* candle power requiring a total current of *20.1* Amperes

E *Wireless* lights each of candle power requiring a total current of *15.0* Amperes

2 Mast head lights with 1 lamp each of *32* candle power requiring a total current of *2.4* Amperes

2 Side lights with 1 lamp each of *32* candle power requiring a total current of *2.4* Amperes

5 Cargo lights of *96* candle power, whether incandescent or arc lights *incandescent*

2 1/2 Watt " " *1000* " " each. " " "

If arc lights, what protection is provided against fire, sparks, &c. *minimum*

Where are the switches controlling the masthead and side lights placed *In wheelhouse*

## DESCRIPTION OF CABLES.

Main cable carrying *22.2* Amperes, comprised of *4* wires, each *16* L.S.G. diameter, *.02201* square inches total sectional area

Branch cables carrying *2.5* Amperes, comprised of *1* wires, each *14* L.S.G. diameter, *.005* square inches total sectional area

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

Leads to lamps carrying *1.8* Amperes, comprised of *1* wires, each *17* L.S.G. diameter, *.00246* square inches total sectional area

Cargo light cables carrying *2.5* Amperes, comprised of *90* wires, each *36* L.S.G. diameter, *.00404* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Cables and Branch Wiring exposed are of 600 Megohm E. & A. Grade, India Rubber vulcanised armoured + white braided, also 1/17 A.P. 254 Lead covered.*

Joints in cables, how made, insulated, and protected *Joints made in W. T. Junction Boxes on decks + Porcelain Junction Boxes with non protecting covers in Engine Room.*

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 *Clipped direct to bulkhead + protected by armouring + braiding in Eng. Rm. Galley + Crew's Quarters + lead covering in Accommodation.*

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 Iron Piping.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured + Braided Cables

What special protection has been provided for the cables near boiler casings Armoured + Braided Cables

What special protection has been provided for the cables in engine room Armoured + Braided Cables.

How are cables carried through beams Bushed with lead or fibre through bulkheads, &c. in Handso if W.T. lead or fibre otherwise

How are cables carried through decks In Iron Deck Pipes bushed or with gland.

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

If so, how are they protected Armoured + Braided Cable in Galvanised Iron Tube.

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 No.

Cargo light cables, whether portable or permanently fixed Permanently How fixed Armoured + Braided Clipped to Bulk Head.

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

How are the returns from the lamps connected to the hull ~~~~~

Are all the joints with the hull in accessible positions ~~~~~

The installation is ~~~~~ supplied with a voltmeter and ~~~~~ an amperemeter, fixed on Lub'd in Eng. Room.

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

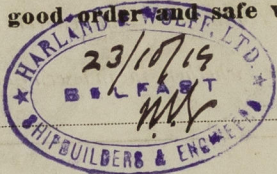
Are any switches, cut outs, or joints of cables fitted in the pump room or companion

How are the lamps specially protected in places liable to the accumulation of vapour or gas

The 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 600 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.



Electrical Engineers

Date 23/10/19

COMPASSES.

Distance between dynamo or electric motors and standard compass 114 ft. from Dynamo. 18 ft. from Wireless Rotary.

Distance between dynamo or electric motors and steering compass 119 " " " 20 " " " "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>6</u>	<u>10</u>	<u>5</u>	<u>feet from steering compass</u>
<u>15</u>	<u>26</u>	<u>22</u>	<u>feet from steering compass</u>
<u>A cable carrying</u>	<u>Amperes</u>	<u>feet from standard compass</u>	<u>feet from steering compass</u>

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

23/10/19

GENERAL REMARKS.

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

It is submitted that

this vessel is eligible for

THE RECORD Elec. light.

J.W.D.  
28/10/19.

T.C. F. Beveridge

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

Committee's Minute