

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8237

Port of Belfast Date of First Survey Aug 19 Date of Last Survey Sep 18 No. of Visits 6
 No. in Reg. Book PS. New Texas on the Iron or Steel Port belonging to Liverpool
 Built at Belfast By whom Harland & Wolff L^{ds} When built 1919
 Owners Elder Dempster & Co L^{ds} Owners' Address Liverpool
 Yard No. 559 Electric Light Installation fitted by Harland & Wolff L^{ds} 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 Cabins Crew	93 lights each of 16 C.P.	candle power requiring a total current of	18.6	Amperes
C Engines Galley Pms.	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	7 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. M. 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 iron 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 + Crews 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 Handsof 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 Deck Hd.

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 Deck 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>5</u>
<u>15</u>	<u>26</u>	<u>22</u>	<u>22</u>
<u> </u>	<u> </u>	<u> </u>	<u> </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. F. Beveridge

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.—9m.34.

