

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7847

Port of Belfast Date of First Survey July 5<sup>th</sup> Date of Last Survey Aug 20 No. of Visits 9  
 No. in on the Iron or Steel S.S. "Mar Shamrock" Port belonging to Belfast  
 Reg. Book Built at Belfast By whom Harland & Wolff L<sup>d</sup> When built 1917  
 Owners For the Shipping Controller Thomas Dixon Sons L<sup>d</sup> Owners' Address Belfast  
 Yard No. 520 Electric Light Installation fitted by Harland & Wolff L<sup>d</sup> When fitted 1917

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Enclosed, forced lubrication Single cylinder Engine & dynamo with cylinder  $5\frac{1}{2} \times 5$  inches stroke. Speed 520 R. P. M.

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 One in Chart Room containing 7 switches.

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 150 arranged in the following groups:—

A aft accom. 30 lights each of 16 candle power requiring a total current of 15 Amperes

B midships 47 lights each of 32 candle power requiring a total current of 14.1 Amperes

C Navigation 4 lights each of 32 B.P. 3 W of 8 candle power requiring a total current of 5.4 Amperes

D Cargo etc 32 lights each of 16 B.P. & 2 W of 32 candle power requiring a total current of 18.4 Amperes

E Engine 32 lights each of 16 B.P. candle power requiring a total current of 16 Amperes

1 Mast head light with 1 lamp each of 32 candle power requiring a total current of 1.2 Amperes

2 Side light with 1 lamp each of 32 candle power requiring a total current of 1.2 Amperes

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

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

Where are the switches controlling the masthead and side lights placed In chart Room.

## DESCRIPTION OF CABLES.

Main cable carrying 18.4 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022 square inches total sectional area

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

Branch cables carrying 4.2 Amperes, comprised of 1 wires, each 14 L.S.G. diameter, .00503 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 3 Amperes, comprised of 108 wires, each 38 L.S.G. diameter, .00503 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables & branch wiring exposed are 600 megohm, C.M.C. grade vulcanised india Rubber, armoured & white braided. also 1/4 A.P. 25# Lead cord cable.

Joints in cables, how made, insulated, and protected Joints made in W. T. junction boxes on decks & porcelain junct. boxes with Iron protecting cover in engine Room.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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. Cables clipped direct to Bulkheads & protected by Armouring & braiding, in Eng. Room, galley & crew's quarters & lead cord 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 in 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

What special protection has been provided for the cables in engine room Armoured & braided

How are cables carried through beams Beams bushed with lead through bulkheads, &c. In glands if W.T.

How are cables carried through decks In iron deck pipes bushed or with gland otherwise fibre or lead.

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 No.

Cargo light cables, whether portable or permanently fixed Permanently How fixed Armoured & braided cable clipped to Bulkheads

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 bulk in Engine 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.

Harland & Wolff Electrical Engineers Date 28<sup>th</sup> Aug '17

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 110 ft from Dynamo. 22' from Wheel & Rotary Comp.

Distance between dynamo or electric motors and steering compass 102 ft. " " " " 16' " " " "

The nearest cables to the compasses are as follows:—

A cable carrying <u>5.7</u> Amperes	<u>11</u> feet from standard compass	<u>5</u> feet from steering compass
A cable carrying <u>14.1</u> Amperes	<u>16</u> feet from standard compass	<u>10</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 all course in the case of the standard compass and nil degrees on all course in the case of the steering compass.

For HARLAND & WOLFF Ltd.

J. Johnson Builder's Signature. Date 28 P. of \_\_\_\_\_

**GENERAL REMARKS.**

This installation is of good description, 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. 3/9/17  
R. J. Beveridge  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute TUE SEP - 11917

REPORT FORM No. 15-34

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN

