

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7890

Port of Belfast Date of First Survey Apr 24 Date of Last Survey Oct 6 No. of Visits 4
 No. in on the ~~Iron~~ or Steel S.S. War Trefoil Port belonging to Belfast
 Reg. Book Built at Belfast By whom Harland & Wolff Ltd When built 1914
 Owners For the Shipping Controller Owners' Address The Dixon, Belfast.
 Yard No. 522 Electric Light Installation fitted by Harland & Wolff When fitted 1917.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One enclosed, forced lubrication Single Cylinder Engine & dynamo with cylinder 5 1/2 " x 5 " 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 fuses 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 fuses fitted to both flow and return wires of cables of all circuits including lamp circuits yes

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 151 arranged in the following groups:—

A Aft. Accom. 31 lights each of 16 candle power requiring a total current of 15.5 Amperes

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

C Navigation 4 lights each of 32 C.P. 3 lbs of 8 candle power requiring a total current of 5.7 Amperes

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

E Engines 32 lights each of 16 candle power requiring a total current of 16.0 Amperes

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

2 Side light with / 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 S.W.G. diameter, .022 square inches total sectional area

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

Branch cables carrying 4.2 Amperes, comprised of 1 wire, each 14 S.W.G. diameter, .00503 square inches total sectional area

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

Cargo light cables carrying 3 Amperes, comprised of 108 wires, each 38 S.W.G. diameter, .00503 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

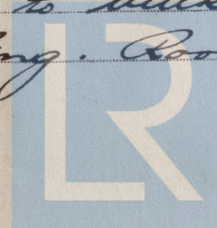
Cables & branch wiring exposed are 600 megohm, C.M. A. grade vulcanised india Rubber, armoured & white braided also 1/4 A.P. 284 lead covd wire.

Joints in cables, how made, insulated, and protected Joints made in W. T. Junction Boxes on deck & porcelain Junction Boxes with iron protecting cover in Engine Room.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — 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 bulkhead & protected by Armouring & braiding in Eng. Room & lead covd in Accomodation.



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 lashed with lead or fibre* through bulkheads, &c. *In gland if 1/2" otherwise*

How are cables carried through decks *In iron deck pipes lashed or with gland.*

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 fuses for these lights fitted _____

If in the spaces, how are they specially protected _____

Are any switches or fuses fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *Permanently outside cargo spaces* How fixed *In S.I. clips outside cargo spaces.*

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 *none fitted, ship double wired,*

Are all the joints with the hull in accessible positions _____

Is the installation supplied with a voltmeter *yes*, and with an amperemeter *yes*, fixed *on Sub in Engine Room*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas _____

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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 *15th Oct. 1917*

COMPASSES.

Distance between dynamo or electric motors and standard compass *110' from Dynamo 22' from Wireless Rotary*

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

The nearest cables to the compasses are as follows:—

A cable carrying *5.7* Amperes *11* feet from standard compass *5* feet from steering compass

A cable carrying *14.1* Amperes *16* feet from standard compass *10* 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* courses in the case of the

standard compass and *nil* degrees on *all* courses in the case of the steering compass.

FOR HARLAND & WOLFF Ltd.

Builder's Signature.

Date

16/10/17

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. 24/10/17

R. F. D. Beveridge

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

Committee's Minute

FRI. OCT. 26 1917.