

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 34091

Port of Glasgow Date of First Survey 20.4.14 Date of Last Survey 9.8.14 No. of Visits 11  
 No. in Reg. Book on the Iron or Steel R.F.A. S's Larchol Port belonging to -  
 Built at Renfrew By whom Lobnitz & Co. L. When built 1917  
 Owners British Admiralty Owners' Address -  
 Yard No. 818 Electric Light Installation fitted by J. Charters When fitted 1917

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One compound enclosed engine coupled direct to dynamo.

Capacity of Dynamo 114 Amperes at 105 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed on starting platform Whether single or double wire system is used double

Position of Main Switch Board beside dynamo having switches to groups A.B.C.D. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none

Shore terminals fitted on switchboard.

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 - 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 or cables of all circuits including lamp circuits yes

Are the fuses of non-oxidizable metal Ad. pattern and constructed to fuse at an excess of Standard per cent over the normal current

Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions A.P. 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 A.P.

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

Total number of lights provided for 162, 1 motor, 1-10" Proj. + 1 Cruise Arc arranged in the following groups:—

A Navigation	19 lights each of 8, 16 + 32	candle power requiring a total current of	5.1	Amperes
B Crew - Proj. Arc	35 lights each of 16 + 50	candle power requiring a total current of	52.8	Amperes
C Eng. & Blr. Rms. Motor	14 lights each of 16	candle power requiring a total current of	19.0	Amperes
D Aft Cabins	44 lights each of 8, 16 + 50	candle power requiring a total current of	20.68	Amperes
E	lights each of -	candle power requiring a total current of	-	Amperes
1 Mast head light with 1 lamp each of 16		candle power requiring a total current of	.56	Amperes
2 Side light with 1 lamp each of 16 + 32		candle power requiring a total current of	1.68	Amperes
4 Deck Cargo lights	each 400	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 whulhouse.

## DESCRIPTION OF CABLES.

Main cable carrying	97 Amperes, comprised of 19 wires, each 14 S.W.G. diameter,	.094 square inches total sectional area
Branch cables carrying	52.8 Amperes, comprised of 19 wires, each 17 S.W.G. diameter,	.046 square inches total sectional area
Branch cables carrying	15 Amperes, comprised of 19 wires, each 20 S.W.G. diameter,	.019 square inches total sectional area
Leads to lamps carrying	.2 Amperes, comprised of 1 wires, each 17 S.W.G. diameter,	.0025 square inches total sectional area
Cargo light cables carrying	15 Amperes, comprised of 19 wires, each 22 S.W.G. diameter,	.0114 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure vulcanised India Rubber, I.R. coated tape and lead sheathing.

Joints in cables, how made, insulated, and protected none.

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 -

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 on steel plating - on deck cables led through galvanised tubes - pump room cables also in tubing.

**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 tube on deck + all cables lead covered.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat lead covering.

What special protection has been provided for the cables near boiler casings lead covering.

What special protection has been provided for the cables in engine room lead covering.

How are cables carried through beams none through bulkheads, &c. in H. J. Glands

How are cables carried through decks in H. J. deck tubes.

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

If so, how are they protected steel plating + lead covering.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage yes in stores.

If so, how are the lamp fittings and cable terminals specially protected guarded special magazine fittings.

Where are the main switches and fuses for these lights fitted in Engine room.

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 portable How fixed -

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

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

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 s'board.

**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 yes.

Are any switches, fuses, or joints of cables fitted in the pump room or companion no.

How are the lamps specially protected in places liable to the accumulation of vapour or gas in A.P. magazine type fittings.

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 1000 megohms per 1000 yds 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.

J. Charters.

Electrical Engineers

Date 15<sup>th</sup> Aug. 1917

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 144 feet

Distance between dynamo or electric motors and steering compass 138 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>30</u> Amperes	<u>14</u> feet from standard compass	<u>8</u> feet from steering compass
A cable carrying	<u>20</u> Amperes	<u>8</u> feet from standard compass	<u>8</u> feet from steering compass
A cable carrying	<u>2</u> Amperes	<u>in</u> feet from standard compass	<u>in</u> 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 LOBNITZ & CO. LIMITED,

Builder's Signature. Date

**GENERAL REMARKS.**

This installation has been fitted in accordance with Admiralty requirements and has been running satisfactorily under working conditions.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light.

Harry Clarke.

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

Committee's Minute GLASGOW 9-OCT. 1917

Elec. Light

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

50612.—Transfer.



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