

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16301

Port of *Greenock* Date of First Survey *27th June 1912* Date of Last Survey *31st July 1912* No. of Visits *10*
 No. in Reg. Book on the ~~Iron~~ or Steel *S. S. Tregarth* Port belonging to
 Built at *Port Glasgow* By whom *Messrs. Dunlop, Bremner & Co.* When built *1912*
 Owners Owners' Address
 Yard No. *270* Electric Light Installation fitted by *Messrs. Claud Hamilton Ltd* When fitted *1912*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open type double acting single cylinder high speed vertical engine direct coupled to compound wound ship lighting dynamo at 350 R. P. M.

Capacity of Dynamo *32* Amperes at *100* Volts, whether continuous or alternating current *continuous*

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

Position of Main Switch Board *Engine Room* having switches to groups *3* of lights, &c., as below

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

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 cessel 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 *50* 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 *48 - 16 C.P.* arranged in the following groups:—
3 - 32 C.P.

A *27* lights each of *16* candle power requiring a total current of *16.2* Amperes

B *5* lights each of " candle power requiring a total current of *3* Amperes

C *16* lights each of " candle power requiring a total current of *9.6* Amperes

D lights each of " candle power requiring a total current of " Amperes

E lights each of " candle power requiring a total current of " Amperes

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

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

none Cargo lights of " candle power, whether incandescent or arc lights

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

Where are the switches controlling the masthead and side lights placed *Chart House*

DESCRIPTION OF CABLES.

Main cable carrying *32* Amperes, comprised of *19* wires, each *18* L.S.G. diameter, *.03376* square inches total sectional area

Branch cables carrying *16* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, *.0124* square inches total sectional area

Branch cables carrying *9.6* Amperes, comprised of *7* wires, each *20* L.S.G. diameter, *.004* square inches total sectional area

Leads to lamps carrying *3* Amperes, comprised of *3* wires, each *20* L.S.G. diameter, *.0029* square inches total sectional area

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

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with pure and vulcanized india rubber and tape, the whole vulcanized together, the whole braided compounded and lead covered.

Joints in cables, how made, insulated, and protected

no joints

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 —

Are there any joints in or branches from the cable leading from dynamo to main switch board —

How are the cables led through the ship, and how protected *lead cover*



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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 *lead cover*

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

What special protection has been provided for the cables near boiler casings *lead covered and armoured*

What special protection has been provided for the cables in engine room *lead covered and armoured*

How are cables carried through beams *lead bushes* through bulkheads, &c. *W. T. Glands*

How are cables carried through decks *W. T. Deck tubes*

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

If so, how are they protected *lead covered and armoured*

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 *no cargo lights* How fixed *—*

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 *yes* supplied with a voltmeter and *yes* an amperemeter, fixed *on Switchboard*

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 *2500* 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.

CLAUDE HAMILTON, LIMITED

H. Bagel

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *48 feet*

Distance between dynamo or electric motors and steering compass *53 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>2</i>	<i>16</i>	<i>16</i>	<i>16</i>
<i>2</i>	<i>3</i>	<i>7</i>	<i>7</i>
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 *✓* degrees on *✓* course in the case of the steering compass.

DUNLOP, BREMNER & COY., LIMITED

Geo. G. Parker

Builder's Signature.

Date

7th August 1912.

GENERAL REMARKS.

Director

The materials and workmanship are good on being tested the installation worked satisfactorily.

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

J.W.D. 29/8/12

Wm. Austin

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

Committee's Minute

GLASGOW 27 AUG. 1912
Elec. Light



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L.H.H.
24/8/12
[Signature]