

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 14583.

Port of Glasgow Date of First Survey \_\_\_\_\_ Date of Last Survey Aug 3<sup>rd</sup> No. of Visits \_\_\_\_\_  
 No. in Reg. Book \_\_\_\_\_ on the Iron or Steel S.S. Dunvegan Castle Port belonging to London  
 Built at Govan By whom Fairfield Shipbldg Coy When built 1896  
 Owners Messrs. D. Currie & Co. Owners Address \_\_\_\_\_  
 Yard No. 389 Electric Light Installation fitted by Siemens Bros. & Co. When fitted 1896

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

The generating plant consists of three Siemens H.B. 15/16 Dynamos, each coupled direct to one H.H. Allens vertical comp<sup>d</sup> Engine running at 250 reos.

Capacity of Dynamo 135 Amperes at 105 Volts, ~~whether~~ continuous ~~or~~ alternating current  
 Where is Dynamo fixed In Main Engine Room  
 Position of Main Switch Board ditto having switches to groups A. to F. of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each \_\_\_\_\_

If cut outs are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch boards 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits \_\_\_\_\_

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 \_\_\_\_\_

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 711 arranged in the following groups:—

A	130	lights each of	16	candle power requiring a total current of	78	Amperes
B	110	lights each of	4	candle power requiring a total current of	66	Amperes
C	140	lights each of	4	candle power requiring a total current of	84	Amperes
D	110	lights each of	4	candle power requiring a total current of	66	Amperes
E	94	lights each of	4	candle power requiring a total current of	56	Amperes
F	46	lights each of	4	candle power requiring a total current of	46	Amperes
1	Must head light with	1	lamps each of	50	candle power requiring a total current of	2
2	Side light with	1	lamps each of	32	candle power requiring a total current of	1.5
8	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 Main Engine Room

## DESCRIPTION OF CABLES.

Main cable carrying 135 Amperes, comprised of 37 wires, each No. 15 L.S.G. diameter, \_\_\_\_\_ square inches total sectional area  
 Branch cables carrying 84 46 Amperes, comprised of 19 67 wires, each No. 13 L.S.G. diameter, \_\_\_\_\_ 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 0.6 Amperes, comprised of 1 wires, each No. 18 L.S.G. diameter, \_\_\_\_\_ square inches total sectional area  
 Cargo light cables carrying 4 Amperes, comprised of 7 wires, each No. 20 L.S.G. diameter, \_\_\_\_\_ square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with one layer of pure and two thicknesses of vulcanized India Rubber, then a layer of specially prepared tape, then braided and ozokarited and run in well seasoned oak + pine wood casings and Iron pipes  
 Joints in cables, how made, insulated, and protected \_\_\_\_\_

Generally jointless system employed

Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes, where joints are necessary 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 Not as far as we could

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 As above described



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14583 gcs.

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 pipes

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

Iron pipes

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

Iron pipes

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

Iron pipes and Teak wood casing

How are cables carried through beams

Through vulcanite fibre bushes

through bulkheads, &c.

Special watertight glands below waterline

How are cables carried through decks

In specially constructed galv. iron sockets.

Are any cables run through coal bunkers

No.

or cargo spaces

No.

or spaces which may be used for carrying cargo, stores, or baggage

not as far as we can tell

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

Portable

How fixed

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

By a gun metal screw securing

How are the returns from the lamps connected to the hull

By a brass cheese headed Whitworth screw 3/8" dia.

Are all the joints with the hull in accessible positions

Yes

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 installation is

supplied with 3 voltmeters and

3

amperemeters fixed on Main switch

The copper used is guaranteed to have a conductivity of

98

per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than

600

megohm

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 that it is at this date in good order and safe working condition.

FOR SIEMENS BROTHERS & CO. LIMITED.

W. Schmitt

Electrical Engineers

Date

Aug 10

COMPASSES.

Distance between dynamo or electric motors and standard compass

over 100 feet

Distance between dynamo or electric motors and steering compass

ditto

The nearest cables to the compasses are as follows:—

A cable carrying 95

Amperes

about 30

feet from standard compass

and 30

feet from steering compass

A cable carrying

Amperes

feet from standard compass

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

The maximum deviation due to electric currents, etc., was found to be

no

degrees on

any

course in the case of the

standard compass and

no

degrees on

any

course in the case of the steering compass.

AND ENGINEERING CO. LIMITED

Builder's Signature

Date

17<sup>th</sup> Aug 1896

GENERAL REMARKS.

W. Schmitt

Pro &

SECRETARY.

The Electric lighting of this vessel given in foregoing particulars has been satisfactorily carried out, and in my opinion is in good order & efficient working condition. James Morrison, Esq. Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

It is submitted that this installation appears to be in accordance with the

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21.8.96