

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16283.

Port of Greenock Date of First Survey 14th May 1912 Date of Last Survey 1st July 1912 No. of Visits 11
 No. in Reg. Book on the Iron or Steel S.S. Agnes Duncan Port belonging to Cardiff
 Built at Port Glasgow By whom R. Duncan & Co. Ltd. When built 1912
 Owners J. J. Duncan & Co. Owners' Address Cardiff
 Yard No. 320 Electric Light Installation fitted by 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 375 R.P.M.

Capacity of Dynamo 60 Amperes at 110 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 7 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 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 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 137 arranged in the following groups:—

A	<u>25</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12</u>	Amperes
B	<u>12</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>6</u>	Amperes
C	<u>35</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>17</u>	Amperes
D	<u>25</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
<u>2</u>	Mast head light with	<u>1</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u> Amperes
<u>2</u>	Side light with	<u>1</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u> Amperes
<u>4</u>	Cargo lights of	each	<u>8-16 CP.</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 60 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .06 square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .012 square inches total sectional area
 Branch cables carrying 17 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 3 wires, each 20 L.S.G. diameter, .002 square inches total sectional area
 Cargo light cables carrying 4 Amperes, comprised of 110 wires, each 36 L.S.G. diameter, .006 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with pure & vulcanized india rubber and tape, the whole vulcanized together, braided and compounded & 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 No

How are the cables led through the ship, and how protected lead covered.



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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 covered

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

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

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

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 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 portable 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 main 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.

For **CLAUD HAMILTON, LIMITED.**

H. B. B. B.

Electrical Engineers

Date —

COMPASSES.

Distance between dynamo or electric motors and standard compass used for steering

Distance between dynamo or electric motors and steering compass space

The nearest cables to the compasses are as follows:—

A cable carrying	<u>12</u>	Amperes	<u>10</u>	feet from standard compass	<u>15</u>	feet from steering compass
A cable carrying	<u>2</u>	Amperes	<u>5</u>	feet from standard compass	<u>12</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 courses in the case of the standard compass and — degrees on — course in the case of the steering compass.

Builder's Signature. Date —

GENERAL REMARKS.

The workmanship is good. On completion the installation was tried and worked satisfactorily.

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

J. W. D. 29/8/12

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

Committee's Minute

GLASGOW

27 AUG. 1912

Elec. Light.

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24/8/12