

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17237.

Port of Greenock Date of First Survey 15th October, 1910 Date of Last Survey 11th January, 1911 No. of Visits 13
 No. in Reg. Book on the Iron or Steel 100 "Magpie" Port belonging to Greenock
 Built at Port Glasgow By whom W. Hamilton & Co. When built 1910
 Owners "Ard" Steamers Limited Owners' Address Greenock
 Yard No. 105 Electric Light Installation fitted by W. Hamilton & Co. When fitted 1910

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo of Multipolar type Compound Wound & direct coupled to
Engine crank shaft, 250 revs. 80 lbs steam pressure
 Capacity of Dynamo 70 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 Six of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each none

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 no and at each position where a cable is branched or reduced in size no 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 Yes and constructed to fuse at an excess of five 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 136 arranged in the following groups:—

A	<u>18</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>10</u> Amperes
B	<u>44</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>30</u> Amperes
C	<u>21</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>15</u> Amperes
D	<u>19</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12</u> Amperes
E	<u>Wireless</u>	lights each of	<u>---</u>	candle power requiring a total current of	<u>15</u> Amperes
	<u>2</u>	Mast head light with <u>double</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>3</u> Amperes
	<u>2</u>	Side light with <u>"</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>3</u> Amperes
	<u>30</u>	Cargo lights of	<u>80</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 Charthouse

DESCRIPTION OF CABLES.

Main cable carrying 70 Amperes, comprised of 37 wires, each 14 S.W.G. diameter, .182 square inches total sectional area
 Branch cables carrying 30 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .035 square inches total sectional area
 Branch cables carrying 15 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area
 Leads to lamps carrying 12 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
 Cargo light cables carrying 20 Amperes, comprised of 7 wires, each 15 S.W.G. diameter, .028 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

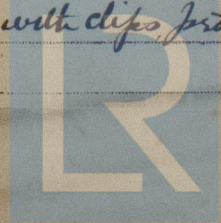
Cables insulated with pure vulcanized india rubber
Braided & Compounded & armoured with a layer of galv. steel wire
All lead covered in accommodation

Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances none 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 none

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 Fastened to deck or longitudinal with clips protected as above



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 none exposed

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

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

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

How are cables carried through beams clipped to beams through bulkheads, &c. W.T. Glands where required

How are cables carried through decks Iron 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 yes

If so, how are they protected Armoured wire

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 Portable How fixed Sockets in W.T. boxes

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

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed on Main Switchboard

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 2000 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.

William Hamilton & Company, Ltd.

Alex McKennedy Director.

Electrical Engineers

Date 21st Jan'y. 1918

COMPASSES.

Distance between dynamo or electric motors and standard compass 130 ft

Distance between dynamo or electric motors and steering compass 120 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
15	20	10	
-	-	-	-
-	-	-	-

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.

William Hamilton & Company, Ltd.

Alex McKennedy Director.

Builder's Signature.

Date 21st Jan'y 1918.

GENERAL REMARKS.

The fitting of the wire is as stated in this report and appears to be in accordance with the Committee's requirements.

It is submitted that this vessel is eligible for

THE RECORD. Elec light.

AWD 31/1/18

JM

James James

Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW. 29 JAN 1918

Elec. Light



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