

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 35024

Port of Glasgow Date of First Survey 15-2-15 Date of Last Survey 31-3-15 No. of Visits 5
 No. in Reg. Book on the Iron Steel S.S. Chronos Port belonging to
 Built at Port Glasgow By whom Tom Hamilton & Co When built 1915
 Owners Australian Steamships Limited Owners' Address Melbourne Australia.
 Yard No. 300 Electric Light Installation fitted by Tom Hamilton & Co When fitted 1915

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo of multipolar open type, compound wound & Engine of single cylinder double acting vertical open type. 340 revs. 100 lb. steam pressure
 Capacity of Dynamo 215 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 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 291 arranged in the following groups:—

A	<u>114</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>55</u> Amperes
B	<u>68</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>30</u> Amperes
C	<u>62</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>25</u> Amperes
D	<u>2 hrs & 30</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>45</u> Amperes
E	<u>17</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>10</u> Amperes
	<u>2</u>	Mast head light with <u>wireless double filament</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>3</u> Amperes
	<u>2</u>	Side light with " lamps each of	<u>32</u>	candle power requiring a total current of	<u>3</u> Amperes
		<u>Five</u> Cargo lights of <u>6-16 C.P. in each</u> candle power, whether incandescent or arc lights <u>Incandescent</u>			

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

Where are the switches controlling the masthead and side lights placed Charthouse

DESCRIPTION OF CABLES.

Main cable carrying	<u>215</u> Amperes, comprised of	<u>38</u> wires, each	<u>13</u> S.W.G. diameter,	<u>255</u> square inches total sectional area
Branch cables carrying	<u>55</u> Amperes, comprised of	<u>7</u> wires, each	<u>13</u> S.W.G. diameter,	<u>046</u> square inches total sectional area
Branch cables carrying	<u>30</u> Amperes, comprised of	<u>19</u> wires, each	<u>17</u> S.W.G. diameter,	<u>046</u> square inches total sectional area
Leads to lamps carrying	<u>25</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> S.W.G. diameter,	<u>022</u> square inches total sectional area
Cargo light cables carrying	<u>35</u> Amperes, comprised of	<u>7</u> wires, each	<u>14</u> S.W.G. diameter,	<u>035</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

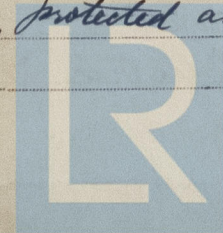
Cables insulated with pure vulcanized india rubber braided & compounded & armoured with a layer of galv. steel wire.

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 decks 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 *holes bored in beams* through bulkheads, &c. *W.T. Stands where required*

How are cables carried through decks *Iron tubes*

Are any cables run through coal bunkers *yes* 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 *Yes*

If so, how are the lamp fittings and cable terminals specially protected *heavy M.G. guards, but fitted 27/2/15*

Where are the main switches and fuses for these lights fitted *steering gear house*

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 W.T.*

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 & CO., LTD.

Alex McKennedy

Electrical Engineers

Date *20th April 1915*

COMPASSES.

Distance between dynamo or electric motors and standard compass *90 ft.*

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	<i>15</i>	Amperes	<i>30</i>	feet from standard compass	<i>30</i>	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 *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 & CO., LTD.

Alex McKennedy

Builder's Signature.

Date *20th April 1915.*

GENERAL REMARKS.

This installation has been well fitted on board and when examined under ordinary working conditions was satisfactory.

It is submitted that this vessel is eligible for

THE RECORD. Elec. light.

J.W.

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

Committee's Minute *GLASGOW* *27 APR. 1915*

Electric Light.



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