

\* N/W Maulabaksh \* H H

WED. APR. 28, 1915  
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# 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 lbs. 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 114 lights each of 16 candle power requiring a total current of 55 Amperes  
 B 68 lights each of 16 candle power requiring a total current of 30 Amperes  
 C 62 lights each of 16 candle power requiring a total current of 25 Amperes  
 D 2 hrs & 30 lights each of 16 candle power requiring a total current of 45 Amperes  
 E 17 lights each of 16 candle power requiring a total current of 10 Amperes  
Wireless double  
 2 Mast head light with filament lamps each of 32 candle power requiring a total current of 3 Amperes  
 2 Side light with " lamps each of 32 candle power requiring a total current of 3 Amperes  
Five Cargo lights of 6-16 CP. in each candle power, whether incandescent or arc lights Incandescent

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 215 Amperes, comprised of 38 wires, each 13 S.W.G. diameter, .255 square inches total sectional area  
 Branch cables carrying 55 Amperes, comprised of 7 wires, each 13 S.W.G. diameter, .046 square inches total sectional area  
 Branch cables carrying 30 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .046 square inches total sectional area  
 Leads to lamps carrying 25 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Cargo light cables carrying 35 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .035 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., LIMITED  
Alex McKennedy Electrical Engineers Date 20<sup>th</sup> 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	<u>15</u>	Amperes	<u>30</u>	feet from standard compass	<u>30</u>	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., LIMITED  
Alex McKennedy Builder's Signature. Date 20<sup>th</sup> 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.D. 29/4/15.  
A.M. McLeod Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute GLASGOW 27 APR. 1915  
Electric Light. AD

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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