

No. 2304.

Port of *Glasgow* Date of First Survey *3. 7. 12* Date of Last Survey *1. 11. 12* No. of Visits *18*  
No. in Reg. Book on the ~~Iron or~~ Steel *Twin s/s Indarra* Port belonging to *Fremantle*  
Built at *Dumbarton* By whom *Denny Bros & Co.* When built *1912*  
Owners *Australasian United Steam Nav. Co.* Owners' Address  
Yard No. *966* Electric Light Installation fitted by *Denny Bros & Co.* When fitted *1912*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo:- Direct Current Compound Multipolar type 100Volts

Where is Dynamo fixed Platform on Port Side of Engine Room Whether single or double wire system is used Double

Positions of auxiliary switch boards and numbers of switches on each A. 6 way Wheel house; B. 15 way Ventilator Room OK; B. 2 way Ventilator Airing OK;

C-10 way Vestibule Bridge Bk. D-6 way Passage Airing Bk. E-10 way Passage Upper Bk. F-8 way Vestibule Airing Bk. G-10 way Passage Upper Bk. H-8 way 3rd Airing Balcon.

9-12way P Passage Downstg Pk; 11-10way Engineer Passage; 11-10way P Passage Upper Pk; 11-12way P Passage Upper Pk; K12way Engine Rm; 10-6way 2<sup>nd</sup> Pantry

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 10% 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 1518 arranged in the following groups:—

A \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes.

B \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes

C ..... lights each of ..... candle power requiring a total current of ..... Amperes

D lights each of candle power requiring a total current of Amperes

E lights each of candle power requiring a total current of Amperes

2 Mast head light with D.F. lamps each of 32 candle power requiring a total current of 2.5 Amperes

2 Side light with DF lamps each of 32 candle power requiring a total current of 2.5 Amperes

*Cargo lights of* ..... *candle power, whether incandescent or arc lights*

If arc lights, what protection is provided against fire, sparks, &c. Enclosed Arc Lamps

Where are the switches controlling the masthead and side lights placed In Chart House

### DESCRIPTION OF CABLES.

Main cable carrying 730 Amperes, comprised of 91 wires, each 12 L.S.G. diameter, .7638 square inches total sectional area

Branch cables carrying 94 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .094 square inches total sectional area

Branch cables carrying 60 Amperes, comprised of 7 wires, each 14 L.S.G. diameter, .035 square inches total sectional area

Leads to lamps carrying 7 Amperes, comprised of 3 wires, each 22 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 66 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .094 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

B = Insulated with pure & vulcanized rubber, taped, and enclosed in lead sheathing

C. Armour with steel wire

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 no joints 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

How are the cables led through the ship, and how protected Surface System through-out ship



Positions of auxiliary switch boards and numbers of switches on each  
 C. 10 way Vestibule Bridge  $\text{B}^{\text{K}}$ ; D. 6 way Passage Lining  $\text{B}^{\text{K}}$ ; D. 2 10 way Passage Upper  $\text{B}^{\text{K}}$ ; E. 1 5 way Vestibule Lining  $\text{B}^{\text{K}}$ ; E. 2 10 way Passage  $\text{B}^{\text{K}}$  Upper  $\text{B}^{\text{K}}$ ; F. 6 way  
 Passage Lining  $\text{B}^{\text{K}}$ ; F. 12 way P. Passage Upper  $\text{B}^{\text{K}}$ ; K. 12 way Engine Rm; Q. 6

*To Indarra*

W1474-0099 2/2

Circuits	Lights	Fans	Motors	Amps
A Signals Lights etc	46	3-12"		47.4
B1 Public Rms Prom Deck	111	8-36"; 1-18"		64.4
B2 " Bridges Lining $\text{B}^{\text{K}}$	137	18-36"; 2-12"		87
C Staterooms Bridge $\text{B}^{\text{K}}$	101	34-12"		72.2
D1 " Lining $\text{B}^{\text{K}}$	53	14-12"		37.3
D2 " Upper $\text{B}^{\text{K}}$	76	34-12"		61.6
E1 2 <sup>nd</sup> Bl Acc Bridge $\text{B}^{\text{K}}$	69	9-36"; 8-12"; 1-18"		49.5
E2 " Upper $\text{B}^{\text{K}}$	61	31-12"		50.3
F 3 <sup>rd</sup> Bl Accommodation	50	—		25
G Night Lights	154	—		77
H Engineers Rm etc	140	1-36"; 3-12"		72.8
I Crews Quarters etc	106	—		58
J Holds; Bunkers etc	124	—		62
K Engine Rm etc	178	—	1-1½ H.P. + 1-½ H.P.	91.5
L Cargo Lights & 2 Arc lamps	72	—		66
M Passenger Lift	2	—	5 H.P.	35
N Boat Winch	3	—	20 H.P.	150
O Fans	—	2-25"		60
P Wireless House	5	—	1½ H.P.	30
Q Power Board	—	1-15"; 1-17½"	2-½ H.P.; 1-3 H.P. 2-½ H.P. 1-40 Amp toaster	78

Main cable carrying 730 Amperes, comprised of 41 wires, each 12 L.S.G. diameter, 12 square  
 Branch cables carrying 94 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, 0.94 square  
 wires, each 14 L.S.G. diameter, 0.35 square



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 (clipped)*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered & Armoured*

What special protection has been provided for the cables near boiler casings *Lead covered & Armoured*

What special protection has been provided for the cables in engine room *Lead covered & Armoured*

How are cables carried through beams *Through hardware plugs* through bulkheads, &c. *Through Watertight Glands*

How are cables carried through decks *Through Lead pipes protected by sheet iron*

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 *Lead covered & Armoured*

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 *Watertight Guarded fittings, Cast iron boxes*

Where are the main switches and cut outs for these lights fitted *In Steward's Passage Port. Upper Deck*

If in the spaces, how are they specially protected *Cast iron Boxes*

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 supplied with a voltmeter and 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 *98%* 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.

*W. Bennett & Co.* Electrical Engineers

Date *18th Nov 1912*

COMPASSES.

Distance between dynamo or electric motors and standard compass *60 ft*

Distance between dynamo or electric motors and steering compass *60 ft*

The nearest cables to the compasses are as follows:— *Compasses fitted with Electric Light*

A cable carrying Amperes feet from standard compass feet from steering compass

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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 course in the case of the standard compass and *nil* degrees on course in the case of the steering compass.

*W. Bennett & Co.* Builder's Signature.

Date *18th Nov 1912*

GENERAL REMARKS.

*This installation has been fitted in accordance with the rules and has been seen working satisfactorily.*

*It is submitted that*

*this vessel is eligible for*

*THE RECORD, Elec light*

*Harry Clarke*

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

Committee's Minute *GLASGOW 26 NOV. 1912*

*Elec. light.*



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