

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3280 (6)

Port of Sydney & Melbourne Date of First Survey Melb - 4/1/21 Date of Last Survey 2.9.20 No. of Visits 9 + 5  
 No. in on the Iron or Steel S.S. "Cudunda" Port belonging to PORT ADELAIDE  
 Reg. Book Built at Cockatoo, Sydney By whom Naval Dockyard When built 1920  
 Owners Commonwealth Government Line Owners' Address 447 Collins St Melbourne  
 Yard No. 35 Electric Light Installation fitted by Mach<sup>y</sup> by Clayton Jones & Sons Melbourne When fitted 1920  
Wiring by Cockatoo, Sydney.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Vertical high speed engine  $7\frac{1}{2}$ " dia, 7" stroke direct coupled to compound wound generator.

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Starboard side Eng room platform Whether single or double wire system is used double wire

Position of Main Switch Board Aft bulkhead Eng room having switches to groups A, B, C, D, E, & Clusters of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Engine Room - 6 switches - Steam Steering Recess

Switches - Steam Steering Recess 3 switches - Chart Room 8 switches - Officer's

accommodation & aft crew space 6 way fuse boards only

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 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 50% app. 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 189 arranged in the following groups :-

A	12	lights each of	16 + 32	candle power requiring a total current of	10	Amperes
B	40	lights each of	16	candle power requiring a total current of	8.5	Amperes
C	16	lights each of	16	candle power requiring a total current of	3.5	Amperes
D	26	lights each of	16	candle power requiring a total current of	6	Amperes
E	31	lights each of	16	candle power requiring a total current of	12	Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2
2	Side light with	1	lamps each of	32	candle power requiring a total current of	2
10	Cargo lights of		96	candle power, whether incandescent or arc lights	Incandescent	

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 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area

Branch cables carrying 6-10-12 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .003 square inches total sectional area

Branch cables carrying 12 & 18 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .007 square inches total sectional area

Leads to lamps carrying 2½ Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 5 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .003 square inches total sectional area

LEADS TO W/T OFFICE 1/16 S.W.G. .022 Sq. SECTION.

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables in Eng Room, Boiler Room, Cargo Spaces C.M.A. 600 MEG. Lead covered

and armoured - All others C.M.A. 600 MEG. Lead covered

Joints in cables, how made, insulated, and protected All joints in main cables are in Watertight Boxes

with packed glands with covers secured by screws - In cabins by standard

porcelain Junction Boxes

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes 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 No

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 Steel armoured cables led straight through the ship, clipped

fine raft beams in protected positions & V.I.R. Cable in water pipe run 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 All cables Lead Covered where liable to damage protected with Steel Iron covers

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead Covered C.M.A. 600 MEG. Lead & Armoured

What special protection has been provided for the cables near boiler casings do.

What special protection has been provided for the cables in engine room do.

How are cables carried through beams Lead bushed holes through bulkheads, &c. Iron W.T. Same as beams

How are cables carried through decks W.T. Deck Tubes W.T. Packed Stands

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 Lead covered & Armoured or V.I.R. in Water pipe

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 Permanent to W.T. Plugs How fixed Clipped to B.K.D's

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 Yes

**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 600 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. so far as the work carried out by

Machinery this yard is concerned.  
Clayton-John Sons & Co. & The Mundle Electrical Engineers Date 19th Aug 1921  
Melbourne Sydney.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 100 ft. Approx.

Distance between dynamo or electric motors and steering compass 90 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Ampere	Lighting	feet from standard compass	feet from steering compass
5			5	
A cable carrying 7	Ampere	10	5	feet from steering compass
A cable carrying Supply to W/T Office	Ampere	20	15	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be No apparent deviation course in the case of the standard compass and No apparent deviation course in the case of the steering compass.

Fuller Builder's Signature. Date 1st December 1920

**GENERAL REMARKS.**

This Electric Installation has been fitted in accordance with the Rules tested & found satisfactory

Fee £12-10 { £7-7 Sydney  
£5-3 Melbourne. 15/10/21

A. C. Heron  
A. J. M. Cowan  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI. 21 OCT. 1921

THE SUBSCRIBERS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im 8.12.—Transfer.



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