

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 848

Port of *Adelaide S.A.* Date of First Survey *10.11.22* Date of Last Survey *18.3.23* No. of Visits *25*.
 No. in on the ~~Iron~~ Steel *Scow Steamer "ERINA"* Port belonging to *Sydney N.S. Wales*.
 Reg. Book Built at *Osborne Port Adelaide* By whom *Doole & Steel* When built *2.23*.
 Owners *Commonwealth Line of Steamers* Owners' Address *Collins St. Melbourne, Victoria*
 Yard No. *3* Electric Light Installation fitted by *Messrs. Newton & McLaren* When fitted *3.23*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Vertical Single Cylinder open type; Engine direct coupled to Compound wound four pole dynamo. Dia of Cylinder 4" x 7 1/2" Stroke.

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

Where is Dynamo fixed *Star side Engine Room B. Platform* Whether single or double wire system is used *Double wire*.

Position of Main Switch Board *Bulk side Engine Room Star* having switches to groups *A, B, C, D, E, F, G* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Fore Peak; no switches, Saloon Pantry, no switches, Passage outside Wireless Room; no switches, Chart Room; 4 switches, Engine Room 3, Crew Mess; no switches, Crew Accommodation no switches, Wheel House no switches, Indicator S.B. Wheel House; 5 switches*

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%* 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 *191* arranged in the following groups:—
4 Fan points, 2 anchor plugs fitted each 32 C Power.

A *Fore Peak* 6 lights each of *16* candle power requiring a total current of *2* Amperes

B *Saloon* 36 lights each of *16* candle power requiring a total current of *10* Amperes

C *Crew Accom* 24 lights each of *16* candle power requiring a total current of *5* Amperes

D *Engine Room* 18 lights each of *16* candle power requiring a total current of *11* Amperes

E *Machinery Spaces* 37 lights each of *16* candle power requiring a total current of *20* Amperes

F *Must head light* with *2* lamps each of *32* candle power requiring a total current of *4* Amperes

" *Side light* with *2* lamps each of *32* candle power requiring a total current of *4* Amperes

" *10* Cargo lights of *6* light each *16* candle power, whether incandescent or arc lights *Incandescent*

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

G *Wireless* *15* *no*.

Where are the switches controlling the masthead and side lights placed *On Indicator Board (switch) in Wheel House.*

DESCRIPTION OF CABLES.

Navigation lights fitted with light & Aural Signals

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

Branch cables carrying *36* Amperes, comprised of *7* wires, each *16* S.W.G. diameter, *.022* square inches total sectional area

Branch cables carrying *10.5* Amperes, comprised of *7-1* wires, each *20-16* S.W.G. diameter, *.0070-.0032* square inches total sectional area

Leads to lamps carrying *3-10* Amperes, comprised of *1* wires, each *18* S.W.G. diameter, *.0018* square inches total sectional area

Cargo light cables carrying *10.36* Amperes, comprised of *7* wires, each *16-16* S.W.G. diameter, *.0032-.0022* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

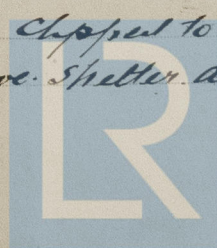
All cables in Engine Room, Boiler Room, Cargo Spaces, and where exposed are C.M.A. 600 meg. Rubber braided, lead covered & cotton braided. all others C.M.A. 600 meg. rubber & cotton braided and lead covered.

Joints in cables, how made, insulated, and protected *Joints in Main Cables are in water tight boxes and in Cabins by standard porcelain 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 *yes*.

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 chipped to longitudinal rooms in protected positions & where exposed above shelter deck in iron pipes staked.*



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 are Lead covered and where liable to damage Armored in Iron piping

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 Do

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

How are cables carried through beams Lead bushed holes through bulkheads, &c. Packed glands

How are cables carried through decks Water tight deck tubes
Through Spare Bunkers. Stiller deck (Twean)

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 & Armored

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 Flexibles How fixed Plug on Bulkhead

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 Yes

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.

For NEWTON, McLAREN Limited,

J. Eardley Whelan
Managing Director.

Electrical Engineers

Date March 18 1923

COMPASSES.

Distance between dynamo or electric motor and standard compass approximately 100 ft.

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

The nearest cables to the compasses are as follows:—

A cable carrying 5 Amperes for lighting feet from standard compass 5 ft. feet from steering compass

A cable carrying 4 Amperes 10 feet from standard compass 5 ft. feet from steering compass

A cable carrying Supply W/room Amperes 20 feet from standard compass 15 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 no apparent deviation degrees on " course in the case of the standard compass and no apparent deviation course in the case of the steering compass.

For and on behalf of

POOLE & STEEL LTD.

Builder's Signature. Date March 18 1923

GENERAL REMARKS.

This Electric Installation has been very carefully fitted (and tested with full load) in accordance with the Rules & Regulations and found satisfactory

It is submitted that this vessel is suitable for THE RECORD.

Elec. light.

A. A. Fairclough
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 3 AUG 1923

Elec Lt



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Foundation