

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1926

Port of Batavia in Furness Date of First Survey 4th May Date of Last Survey 12th Nov 1921 No. of Visits 55
 No. in Reg. Book 24815 on the Iron or Steel T.S.S. "Moreton Bay" Port belonging to Brisbane
 Built at Batavia in Furness By whom Vickers Ltd When built 1921
 Owners The Rt. Hon. William Morris Hughes KC MP. Prime Minister of the Commonwealth of Australia Owners' Address
 Yard No. 573 Electric Light Installation fitted by Vickers Ltd When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC. Two 125 Kw. 110 Volt open type compound wound, multi polar dynamos, coupled to "Allen" vertical two crank compound enclosed forced lubrication engines, also One 35 Kw. 110 Volt open type compound dynamo coupled to a Gardner 4 cyl. petroleum engine.

Capacity of Dynamos 2 at 1135 Amperes at 110 Volts, whether continuous or alternating current continuous
 are 1 at 318

Where ~~the~~ Dynamos fixed 2 on platform in E.R. aft. 1 in Emergency Dynamo Room "A" deck Whether single or double wire system is used Double

Position of Main Switch Board On dynamo platform in E.R. having switches to groups 16 in number of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One Emergency change over board in Emergency Dynamo Room with four D.P. switches, & one Emergency distribution board in Emergency Dynamo Room with seven D.P. 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 Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 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 915 arranged in the following groups :-

| | | | | | | |
|---|------------------------------------|-----------------------|---|--|---|------------------|
| A | <u>17</u> <u>297</u> | lights each of | <u>16 c.p.</u> <u>30 watts</u> | candle power requiring a total current of | <u>87</u> | Amperes |
| B | <u>57</u> <u>145</u> | lights each of | <u>16 c.p.</u> <u>30 watts</u> | candle power requiring a total current of | <u>42</u> | Amperes |
| C | <u>103</u> | lights each of | <u>30 watts</u> | candle power requiring a total current of | <u>29</u> | Amperes |
| D | <u>2</u> <u>34</u> <u>89</u> | lights each of | <u>300 watt</u> <u>16 c.p.</u> <u>30 watt</u> | candle power requiring a total current of | <u>44</u> | Amperes |
| E | <u>2</u> <u>209</u> | lights each of | <u>300 watt</u> <u>16 c.p.</u> <u>30 watt</u> | candle power requiring a total current of | <u>66</u> | Amperes |
| | <u>2</u> | Mast head lights with | <u>1</u> lamps each of | <u>32</u> | candle power requiring a total current of | <u>2</u> Amperes |
| | <u>2</u> | Side light with | <u>1</u> lamps each of | <u>32</u> | candle power requiring a total current of | <u>2</u> Amperes |
| | <u>19</u> <u>12</u> | Cargo lights of | <u>96 c.p.</u> <u>500 watt</u> | candle power, whether incandescent or arc lights | <u>Incandescent</u> | |

If arc lights, what protection is provided against fire, sparks, &c. None fitted

Where are the switches controlling the masthead and side lights placed In Indicator in Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 1135 Amperes, ^{2 per pole} comprised of 124 wires, each 103 S.W.G. diameter, 1.0 square inches total sectional area
 main Branch cables carrying 318 Amperes, comprised of 61 wires, each 103 S.W.G. diameter, .5 square inches total sectional area
 Linking Branch cables carrying 590 Amperes, comprised of 124 wires, each 103 S.W.G. diameter, 1.0 square inches total sectional area
 Leads to lamps carrying Amperes, comprised of wires, each S.W.G. diameter, square inches total sectional area
 Cargo light cables carrying Amperes, comprised of wires, each S.W.G. diameter, square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables rubber insulated. All cables from switchboards protected by lead sheath & steel wire armour & braiding, all sub branch cables protected by lead sheath, & those fitted in portable accommodation are further protected by steel wire armour & braiding.
 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 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 No joints

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 Clipped to decks & bulkheads. Protected by lead sheathing & steel wire armour as detailed 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 Run in conduit where lead sheathed; no extra protection where armoured & braided.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat These places avoided.

What special protection has been provided for the cables near boiler casings Lead covered & steel wire armoured & braided.

What special protection has been provided for the cables in engine room Lead covered & steel wire armoured & braided.

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

How are cables carried through decks Watertight deck tubes ✓

Are any cables run through coal bunkers No or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected Lead covered & steel wire armoured and braided.

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 Special armoured fittings between beams

Where are the main switches and fuses for these lights fitted In same compartment

If in the spaces, how are they specially protected In sheet steel casing with lock

Are any switches or fuses 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 Double wire system

How are the returns from the lamps connected to the hull Double wire system

Are all the joints with the hull in accessible positions Double wire system

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed on main & emergency switchboards.

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.

FOR VICKERS LIMITED.

John Barry Electrical Engineers Date 25th Nov 1921

COMPASSES.

Distance between dynamo or electric motors and standard compass nearest motor 19 feet

Distance between dynamo or electric motors and steering compass " " 23 feet

The nearest cables to the compasses are as follows:—

| | | | | | | |
|------------------|-----------|---------|-----------|----------------------------|----------|----------------------------|
| A cable carrying | <u>20</u> | Amperes | <u>6</u> | feet from standard compass | <u>8</u> | feet from steering compass |
| A cable carrying | <u>3</u> | Amperes | <u>11</u> | feet from standard compass | <u>4</u> | 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 every course in the case of the standard compass and nil degrees on every course in the case of the steering compass.

FOR VICKERS LIMITED!

John Barry Builder's Signature. Date 25th Nov 1921

GENERAL REMARKS. This installation has been efficiently fitted on board, and on completion it was tried under full load & found satisfactory.
Governing tests were carried out on each generator, & the governors were found to be sensitive & efficient when the full load was cut out.

Fee: £ 38-12-6 Applied for 23/11/21. John Houston
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 7.19.—Transfer.