

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1313B

Port of **MARYBOROUGH** Date of First Survey **18th July** Date of Last Survey **5th Novr** No. of Visits **17**
 No. in **Brisbane District** on the **Steel** "ECHUCA" Port belonging to **Melbourne**
 Reg. Book Built at **Maryborough, Queensland** By whom **Walkers Limited** When built **1921**
 Owners **Commonwealth Government Line** Owners' Address **Melbourne, Victoria**
 Yard No. **39** Electric Light Installation fitted by **Norman Bell & Coy.** When fitted **1921**

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo continuous current 10 Kilowatt 100 Volts

Vertical engine coupled direct to dynamo on C.I. bed, cylinder ^{6 1/2} dia. x 6" strokeCapacity of Dynamo **one hundred** Amperes at **100** Volts, whether continuous or alternating current **continuous**Where is Dynamo fixed **in engine room**

Whether single or double wire system is used

Position of Main Switch Board **in engine room**having switches to groups **A.B.C.D.**

of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each **none, except the switches controlling the masthead and side lights (see below)**If fuses are fitted on main switch board to the cables of main circuit **No** 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 **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 **75** per cent over the normal currentAre 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 **202** arranged in the following groups:—

A	161	lights each of	16	candle power requiring a total current of	80.5	Amperes
B	1	lights each of	32	candle power requiring a total current of	1	Amperes
C	6	lights each of	5	candle power requiring a total current of	.5	Amperes
D	30	lights each of	25	candle power requiring a total current of	8.5	Amperes
E		lights each of		candle power requiring a total current of		Amperes
2	Mast head light with	one lamps each of	32	candle power requiring a total current of	2	Amperes
2	Side light with	one lamps each of	32	candle power requiring a total current of	2	Amperes
	Cargo lights of			candle power, whether incandescent or arc lights		

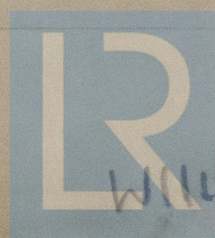
If arc lights, what protection is provided against fire, sparks, &c. **no arc lights**Where are the switches controlling the masthead and side lights placed **Under section box in office on bridge**

DESCRIPTION OF CABLES.

Main cable carrying	118	Amperes, comprised of	19	wires, each	14	S.W.G. diameter, .9557	square inches total sectional area
Branch cables carrying	46	Amperes, comprised of	7	wires, each	16	S.W.G. diameter, .02254	square inches total sectional area
Branch cables carrying	24	Amperes, comprised of	7	wires, each	20	S.W.G. diameter, .00714	square inches total sectional area
Leads to lamps carrying	{ 12 6	Amperes, comprised of	{ 3 1	wires, each	20 18	S.W.G. diameter, .00306 .00181	square inches total sectional area
Cargo light cables carrying	12	Amperes, comprised of	3	wires, each	20	S.W.G. diameter, .00306	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains are armoured lead covered braided in rubber, wiring in machinery space is armoured lead covered braided and rubber, wiring in cabins is lead covered and rubber

Joints in cables, how made, insulated, and protected **All connections made through fittings or junction boxes**Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances **no joints** 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 baggageAre 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 **All cables are fastened with brass clips and where necessary armoured**

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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 **encased in water tight casing**

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **Cables have been kept away from heat**

What special protection has been provided for the cables near boiler casings **armoured cable used**

What special protection has been provided for the cables in engine room **armoured cable used**

How are cables carried through beams **through lead bushes** through bulkheads, &c. **water tight glands**

How are cables carried through decks **through water tight deck tubes with gland**

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

If so, how are they protected **armoured cable used**

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 **permanently** How fixed **terminating in plugs**

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 switch board**

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.

Norman Bell

Electrical Engineers

Date **5th November**

COMPASSES.

Distance between dynamo or electric motors and standard compass **over one hundred feet**

Distance between dynamo or electric motors and steering compass **over one hundred feet**

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
5	compass light	compass light	
6	30	20	
23	60	50	

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.

WALKERS LIMITED.

V.S. Goldsmith
General Manager

Builder's Signature.

Date **Nov 5th 1921**

GENERAL REMARKS. The whole installation has been carried out in accordance with the Rules

Wiring and other work has been carefully carried out and when completed the dynamo was tested under the following conditions:

100 volts: 10 K.W. 100 Amps: dynamo kept running for thirty (30) minutes on this load, the "cut out" and "cut in" frequent, everything working satisfactorily engine working smoothly and dynamo running cool

this record is eligible for THE RECORD. **Elec. Light.**

R.S. Sanford
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 21 MAR. 1922

TUE. 23 MAY. 1922

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.