

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8420

Port of Ownde Date of First Survey 9<sup>th</sup> Jan. 1923 Date of Last Survey 22<sup>nd</sup> Feb. 1923 No. of Visits 8.  
 No. in Reg. Book on the ~~Iron~~ Steel T. S. S. "MURITAI" Port belonging to Wellington  
 Built at Montrose By whom Coast Construction Co. Ltd. When built 1923  
 Owners Eastbourne Borough Council Owners' Address Wellington New Zealand  
 Yard No. 117 Electric Light Installation fitted by Coast Construction Co. Ltd. When fitted 1923

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

1 Single cylinder (5' dia x 3 1/2' stroke) "Lisson" engine direct coupled to a Boothroyd 5 Kilo watt direct current dynamo

Capacity of Dynamo 45.5 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Portside Engine Room Whether single or double wire system is used Double  
 Position of Main Switch Board Engine Room having switches to groups 4 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each no auxiliary switchboards

If fuses are fitted on main switch board to the cables of main circuit Yes and on main 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 25 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 112 arranged in the following groups:—

|    |                                      |   |  |     |         |
|----|--------------------------------------|---|--|-----|---------|
| A  | Engine Room                          | lights each of 14 @ 25 C.P. 7 @ 75 C.P.   | candle power requiring a total current of        | 6   | Amperes |
| B  | Navigation                           | lights each of 6 @ 32 C.P. 2 @ 8 C.P.     | candle power requiring a total current of        | 10  | Amperes |
| C  | Forward Saloon                       | lights each of 34 @ 25 C.P. 10 @ 150 C.P. | candle power requiring a total current of        | 10  | Amperes |
| D  | Aft Saloon                           | lights each of 45 @ 25 C.P. 2 @ 15 C.P.   | candle power requiring a total current of        | 12  | Amperes |
| E  |                                      | lights each of                            | candle power requiring a total current of        |     | Amperes |
| 1  | Mast head light with 1 lamps each of | 32  | candle power requiring a total current of        | .9  | Amperes |
| 2  | Side light with 1 lamps each of      | 32  | candle power requiring a total current of        | 1.8 | Amperes |
| no | Cargo lights of                      | ✓   | candle power, whether incandescent or arc lights | ✓   |         |

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

Where are the switches controlling the masthead and side lights placed Whale house

**DESCRIPTION OF CABLES.**

|                             |                            |               |                     |  |
|-----------------------------|----------------------------|---------------|---------------------|--|
| Main cable carrying         | 45.5 Amperes, comprised of | 7 wires, each | 14 S.W.G. diameter, | .035 square inches total sectional area  |
| 2 Branch cables carrying    | 10 Amperes, comprised of   | 3 wires, each | 20 S.W.G. diameter, | .0030 square inches total sectional area |
| 2 Branch cables carrying    | 12 Amperes, comprised of   | 7 wires, each | 22 S.W.G. diameter, | .0042 square inches total sectional area |
| Leads to lamps carrying     | 1.5 Amperes, comprised of  | 1 wires, each | 18 S.W.G. diameter, | .0018 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.**

Main Cable (Twin) vulcanized rubber insulated, braided and armoured lead covered.  
Other cables vulcanized rubber, and lead covered.

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 — 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 no

How are the cables led through the ship, and how protected Perforated steel trays: lead covered: armoured & braided.



**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

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat In galley: away from lamps

What special protection has been provided for the cables near boiler casings On perforated steel trays, kept well clear of Boilers.

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

How are cables carried through beams Lead Bushes through bulkheads, &c. W/T glands ✓

How are cables carried through decks W/T 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 Clipped to under side of deck

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage In store room - Yes

If so, how are the lamp fittings and cable terminals specially protected Glass shades & wire guards

Where are the main switches and fuses for these lights fitted Engine room.

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 None 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 ✓

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed Main 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 100 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.

Electrical Engineers Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 60 feet

Distance between dynamo or electric motors and steering compass 60 feet

The nearest cables to the compasses are as follows:—

|                  |    |         |   |                            |   |                            |
|------------------|----|---------|---|----------------------------|---|----------------------------|
| A cable carrying | 10 | Amperes | 5 | feet from standard compass | 6 | feet from steering compass |
| A cable carrying | ✓  | Amperes | ✓ | feet from standard compass | ✓ | 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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

FOR COASTER CONSTRUCTION COMPANY, LIMITED  
W. J. M. Larn

Builder's Signature. Date 22nd Feb 1923.

**GENERAL REMARKS.**

This installation has been fitted on board in an efficient manner, the workmanship and materials are sound and good, it has been tried under working conditions and found satisfactory in all respects.

Fee £ 5-0-0.

THE RECORD Elec. light.

J. S. Llewellyn  
 28/2/23 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. MAR. 2 1923



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.