

MON. JAN. 22, 1912

Rpt. 13.

Received at London Office

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 30995

Port of Glasgow Date of First Survey 27th Sept Date of Last Survey 27th Dec/11 No. of Visits 6
No. in Reg. Book 31 on the Iron or Steel Harunui Port belonging to Plymouth
Built at Port Glasgow By whom Russell & Co. When built 1911
Owners New Zealand Shipping Co. Ltd. Owners' Address
Yard No. 624 Electric Light Installation fitted by W. B. Martin & Co. When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two single cylinder double acting steam engines direct coupled to two compound wound Dynamos with carbon brushes.

Capacity of Dynamo two at 200 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Thrust recess Whether single or double wire system is used double

Position of Main Switch Board Thrust recess having switches to 13 groups of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each No auxiliary switchboards.

Cut outs 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 reduced in size yes and to each lamp circuit yes

Is a fuse fitted on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of fifty per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Number of lights provided for arranged in the following groups:—

lights each of candle power requiring a total current of Amperes

lights each of candle power requiring a total current of Amperes

lights each of separate candle power requiring a total current of sheet Amperes

lights each of candle power requiring a total current of Amperes

lights each of candle power requiring a total current of Amperes

lights each of candle power requiring a total current of Amperes

2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 2.2 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.2 Amperes

Cargo lights of candle power, whether incandescent or arc lights

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

Where are the switches controlling the masthead and side lights placed In wheelhouse.

DESCRIPTION OF CABLES.

Main cable carrying 200 Amperes, comprised of 97 wires, each .083 inch diameter, .2 square inches total sectional area

Branch cables carrying 15.4 Amperes, comprised of 19 wires, each .20 L.S.G. diameter, .0189 square inches total sectional area

Branch cables carrying 16.5 Amperes, comprised of 19 wires, each .20 L.S.G. diameter, .0189 square inches total sectional area

Leads to lamps carrying .55 Amperes, comprised of 1 wires, each .18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 2.75 Amperes, comprised of 108 wires, each .006 L.S.G. diameter, .006 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

H. B. Copper wire tinned, insulated with pure vulcanized rubber & tape, the whole vulcanized together & sheathed with lead or steel armour.

Joints in cables, how made, insulated, and protected No joints.

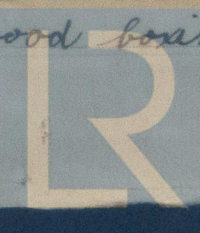
Are all the joints of cables thoroughly soldered, resin only having been used as a flux no joints Are all joints in accessible positions, none being

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 Lead covered or armoured cables, clipped

openly. Protected by beams and in some parts by wood boxing.



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DESCRIPTION OF INSULATION, PROTECTION, ETC. continued.

Are they in places always accessible *Yes except when cargo in tween decks.*
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered and armoured cables and metal tubes.*
 What special protection has been provided for the cables near galley or oil lamps or other sources of heat *Steel armour.*
 What special protection has been provided for the cables near boiler casings *steel armour.*
 What special protection has been provided for the cables in engine room *steel armour.*
 How are cables carried through beams *Bushed holes.* through bulkheads, &c. *W. T. G. lands.*
 How are cables carried through decks *Metal tubes fitted watertight to decks.*
 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 armoured wires in wood boxing.*
 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 *Strong metal guards.*
 Where are the main switches and cut outs for these lights fitted *Engine Room.*
 If in the spaces, how are they specially protected
 Are any switches or cut outs fitted in bunkers *No.*
 Cargo light cables, whether portable or permanently fixed *portable* Here fixed *fibre for hrs.*
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *double wired.*
 How are the returns from the lamps connected to the hull
 Are all the joints with the hull in accessible positions
 The installation is *at present* supplied with a voltmeter and *two* amperemeter, fixed *on switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas
 Are any switches, cut outs, 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 *98* per cent. that of pure copper.
 Insulation of cables is guaranteed to have a resistance of not less than *2000* megohms per statute mile after 24 hours' immersion in seawater.

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.

W. C. Martin & Co.

Electrical Engineers

Date *17th Jan. 1912*

COMPASSES.

Distance between dynamo or electric motors and standard compass *192 ft.*
 Distance between dynamo or electric motors and steering compass *200 ft.*

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
A cable carrying <i>8.8</i>	<i>20</i>	<i>11</i>	
A cable carrying <i>15.4</i>	<i>39</i>	<i>30</i>	
A cable carrying <i>.27</i>	<i>1</i>	<i>1</i>	

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 *a certain* course in the case of the standard compass and *nil* degrees on *the same* course in the case of the steering compass.

Russell & Co. Builder's Signature. Date *19th Jan. 1912*

GENERAL REMARKS.

Dynamo fitted on board & tried under steam, wiring & fitting of lamps well advanced when the vessel left Glasgow. Workmen sent to London to complete. Now complete. Robt. H. Smith. W. London. Muellem.
It is submitted that this vessel is eligible for THE RECORD Elec. light
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute



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