

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28403.

Port of *Glasgow* Date of First Survey *26th Oct.* Date of Last Survey *7th Dec.* No. of Visits *6*
 No. in on the Iron or Steel *Mecklenburg* Port belonging to *Flushing*
 Reg. Book Built at *Sovan* By whom *The Fairfield Shipbuilding & Engineering Co.* When built *1909*
 Owners *The Zealand Steamship Co.* Owners' Address *Flushing*
 Yard No. *463* Electric Light Installation fitted by *The Fairfield Shipbuilding & Engineering Co.* When fitted *1909*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 Compound Wound Dynamos Each Direct Coupled To Compound Engine of 112 B.H.P. at 500 R.P.M. of Totally Enclosed Forced Lubrication Type
 Capacity of Dynamo *750* Amperes at *100* Volts, whether continuous or alternating current *Continuous*
 Where is Dynamo fixed *In Engine Rm aft* Whether single or double wire system is used *Double*
 Position of Main Switch Board *In Engine Rm aft* having switches to groups *Six* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *None*

If 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 branched or reduced in size *Yes* and to each lamp circuit *Yes*

If vessel is wired 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-oxidisable metal *Yes* and constructed to fuse at an excess of *50* 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 *No written instruction*

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *Yes*

Total number of lights provided for *548* arranged in the following groups:—

A	<i>19</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>9.6</i>	Amperes
B	<i>123</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>73.8</i>	Amperes
C	<i>187</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>112.2</i>	Amperes
D	<i>78</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>46.8</i>	Amperes
E	<i>50</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>30.0</i>	Amperes
F	<i>2</i>	Mast head light with <i>64</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>38.4</i>	Amperes
		<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.2</i>	Amperes
	<i>2</i>	Side light with <i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.2</i>	Amperes
	<i>11</i>	Cargo lights of	<i>16</i>			
	<i>12</i>	Cargo lights of	<i>32</i>	candle power, whether incandescent or arc lights	<i>Incandescent</i>	

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

Where are the switches controlling the masthead and side lights placed *In Ships Light Indicator in Chart House*

DESCRIPTION OF CABLES.

Main cable carrying	<i>750</i>	Amperes, comprised of	<i>91</i>	wires, each	<i>12</i>	L.S.G. diameter,	<i>76</i>	square inches total sectional area
Branch cables carrying	<i>112</i>	Amperes, comprised of	<i>34</i>	wires, each	<i>15</i>	L.S.G. diameter,	<i>148</i>	square inches total sectional area
Branch cables carrying	<i>73</i>	Amperes, comprised of	<i>34</i>	wires, each	<i>16</i>	L.S.G. diameter,	<i>117</i>	square inches total sectional area
Leads to lamps carrying	<i>.6</i>	Amperes, comprised of	<i>1</i>	wires, each	<i>18</i>	L.S.G. diameter,	<i>.0018</i>	square inches total sectional area
Cargo light cables carrying	<i>6.6</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>20</i>	L.S.G. diameter,	<i>.004</i>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

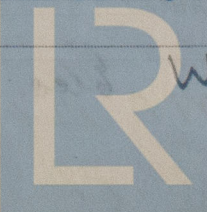
Vulcanised, Taped, Braided & Compounded also Lead Covered and Armoured

Joints in cables, how made, insulated, and protected *None*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *—* 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 *From Engine Rm along Main Dk Port & Starboard Wood Casing also Lead Covered and 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 Teakwood Casing and Lead Covered and Armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Teakwood Casing

What special protection has been provided for the cables near boiler casings Teakwood Casing

What special protection has been provided for the cables in engine room Lead Covered and Armoured

How are cables carried through beams Wood Fibre Bushes through bulkheads, &c. Watertight Glands

How are cables carried through decks Watertight Decktubes

Are any cables run through coal bunkers No 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 and Armoured

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 Metal Caps

Where are the main switches and cut outs for these lights fitted on main Deck

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 How fixed In W. C. Connection Box

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

The installation is supplied with a voltmeter and an 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 600 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.

THE FAIRFIELD SHIPBUILDING

AND ENGINEERING CO., LIMITED,

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 172 feet

Distance between dynamo or electric motors and steering compass 184

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>6</u>		<u>37</u>	<u>37</u>

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.

THE FAIRFIELD SHIPBUILDING

AND ENGINEERING CO., LIMITED,

Builder's Signature.

Date

20 Dec 1909.

GENERAL REMARKS.

The Electric Lighting of this vessel has been satisfactorily carried out.

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

Elec. light.

23.12.09.

H Gardner-Smith.
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

Elec. light



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