

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28403.

Port of Glasgow Date of First Survey 26<sup>th</sup> Oct Date of Last Survey 7<sup>th</sup> Dec No. of Visits 6  
 No. in Reg. Book on the Iron or Steel Mecklenburg Port belonging to Flushing  
 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 R<sup>m</sup> aft Whether single or double wire system is used Double  
 Position of Main Switch Board In Engine R<sup>m</sup> 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 cessel 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	19	lights each of	16	candle power requiring a total current of	9.6	Amperes
B	123	lights each of	16	candle power requiring a total current of	73.8	Amperes
C	187	lights each of	16	candle power requiring a total current of	112.2	Amperes
D	78	lights each of	16	candle power requiring a total current of	46.8	Amperes
E	50	lights each of	16	candle power requiring a total current of	30.0	Amperes
F	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
	11	Cargo lights of	16			
	12	Cargo lights of	32			

candle power, whether incandescent or arc lights Incandescent

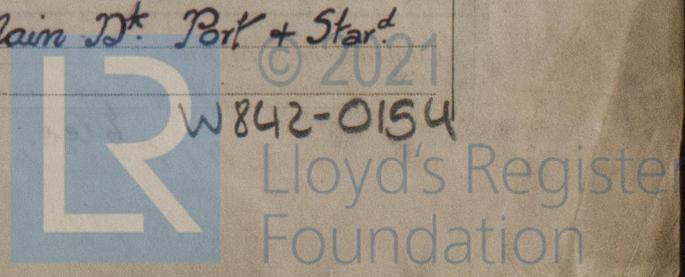
If arc lights, what protection is provided against fire, sparks, &c. None  
 Where are the switches controlling the masthead and side lights placed In Ships Light Indicator in Chart House

**DESCRIPTION OF CABLES.**

Main cable carrying 750 Amperes, comprised of 91 wires, each 12 L.S.G. diameter, 76 square inches total sectional area  
 Branch cables carrying 112 Amperes, comprised of 34 wires, each 15 L.S.G. diameter, 148 square inches total sectional area  
 Branch cables carrying 73 Amperes, comprised of 34 wires, each 16 L.S.G. diameter, 117 square inches total sectional area  
 Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 6.6 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .007 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 Yes 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 Yes  
 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 R<sup>m</sup> along Main D<sup>k</sup> Port + Star<sup>d</sup> Wood Casing also Lead Covered and Armoured



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. #22 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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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

J.H.A.  
20-12-09