

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16520

Port of Greenock Date of First Survey 20.6.13 Date of Last Survey 9.8.13 No. of Visits 15
 No. in on the Iron or Steel S.S. Seijo Maru Port belonging to Yokohama
 Reg. Book Built at Port Glasgow By whom Russell & Co. When built 1913
 Owners Owners' Address
 Yard No. 644 Electric Light Installation fitted by Bennett & Hunterford When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One combined coupled plant 9" x 8' open type Vertical Engine with multipole six pole dynamo.
 Capacity of Dynamo 200 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Main platform Engine Room Whether single or double wire system is used double
 Position of Main Switch Board near coupled plant having switches to groups nine of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1 Forecastle, 1 Saloon Pantry, 1 Chart Room, 1 Engineer Quarters, 3 Engine Room, 1 Cluster (at Steering Engine), 1 2nd Class Accommodation
 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-oxidizable metal Yes and constructed to fuse at an excess of 25 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
 Total number of lights provided for 235 arranged in the following groups:—

A	<u>Forecastle</u>	<u>15</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>9.6</u>	Amperes
B		<u>32</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>20.4</u>	Amperes
C		<u>42</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>26.8</u>	Amperes
D		<u>24</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>15.3</u>	Amperes
E		<u>28</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>14.9</u>	Amperes
	<u>2</u> Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
	<u>2</u> Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
	<u>4</u> Cargo lights of		<u>96</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed

Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 34 wires, each 14 L.S.G. diameter, .182 square inches total sectional area
 Branch cables carrying 26 Amperes, comprised of 4 wires, each 15 L.S.G. diameter, .028 square inches total sectional area
 Branch cables carrying 14 Amperes, comprised of 4 wires, each 18 L.S.G. diameter, .0125 square inches total sectional area
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .0032 square inches total sectional area
 Cargo light cables carrying 38 Amperes, comprised of 4 wires, each 22 L.S.G. diameter, .0042 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In accommodation etc all cables are protected by Pure & Vul. India Rubber, Taped & vulcanized together, then covered with Lead covering. In Hold, Engine Rooms Armoured with Iron wires
 Joints in cables, how made, insulated, and protected No joints all mechanical boxes

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

Clipped to deck (Armoured cables)

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 Armoured

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

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

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

How are cables carried through beams Lead ferrules through bulkheads, &c. Lead ferrules - W.T. flange

How are cables carried through decks Iron deck tubes fixed to deck

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 Armoured

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 cut outs for these lights fitted /

If in the spaces, how are they specially protected /

Are any switches or cut outs fitted in bunkers /

Cargo light cables, whether portable or permanently fixed Portable 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 /

The installation is / supplied with a voltmeter and / an amperemeter, fixed on Main Turbine

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 100 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.

Bennett & Rutherford Electrical Engineers

Date 9 August 1913

COMPASSES.

Distance between dynamo or electric motors and standard compass 200 ft

Distance between dynamo or electric motors and steering compass " "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6</u>	Ampères	<u>one</u>	feet from standard compass	<u>one</u>	feet from steering compass
A cable carrying	<u>1.2</u>	Ampères	<u>four</u>	feet from standard compass	<u>four</u>	feet from steering compass
A cable carrying	<u>10</u>	Ampères	<u>ten</u>	feet from standard compass	<u>four</u>	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 - degrees on - course in the case of the standard compass and - degrees on - course in the case of the steering compass.

J. Russell
Builder

Builder's Signature.

Date 10th Sept 1913

GENERAL REMARKS.

The materials and workmanship are good on Completion
the installation was tested and worked satisfactorily.
It is submitted that
this vessel is eligible for
THE RECORD. Elec light. JWR
15/9/13.
Wm. Austin.
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

GLASGOW 16 SEP. 1913

Elec. light

dec



Lloyd's Register
Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.