

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 31592

Port of Glasgow Date of First Survey 12.4.12 Date of Last Survey 21.6.12 No. of Visits 16  
 No. in Reg. Book 493 on the Iron or Steel S.S. ITATINGA Port belonging to Rio de Janeiro  
 Built at Troon By whom Atisa S. B. Co Ltd When built 1912  
 Owners Companhia Nacional de Navigacao Costeira Owners' Address Rio de Janeiro  
 Yard No. 247 Electric Light Installation fitted by Yelford Grier & Machay Ltd. When fitted 1912

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

Two Single Cylinder open type engines direct coupled to two four pole compound wound Dynamos  
 Capacity of Dynamo 170 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Starboard Side Engine room Whether single or double wire system is used Double  
 Position of Main Switch Board Starboard Side Engine room having switches to groups 10 groups 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-oxidizable 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 on switchboard  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 271 lights 16 fans 2 arranged in the following groups :-

A Saloon 9 fans	27	lights each of 16	candle power requiring a total current of	28	Amperes
Smokeroom 2 "	17	lights each of 16		9.5	
B Navigation -	7	lights each of 2.16 CP 3-32 CP	candle power requiring a total current of	3	Amperes
Forward -	42	+ 1 arc		23.5	
C Officers 4 fans	51	lights each of 16	candle power requiring a total current of	27.5	Amperes
Shade Dk 10 "	16	+ 1 arc		15.5	
D Main Dk 19 "	53	lights each of 16	candle power requiring a total current of	34	Amperes
Engine room	33	lights each of 16		16.5	
E Engine room 2 fans	lights each of -		candle power requiring a total current of	2	Amperes
Marconie				22.2	
2 Mast head lights with	1	lamps each of 32 CP Dk	candle power requiring a total current of	1	Amperes
2 Side lights with	1	lamps each of 32 CP Dk	candle power requiring a total current of	1	Amperes

4 + 2 arcs Cargo lights of each with 6-16 CP lamp power, whether incandescent or arc lights 4 incandescent 2 arcs  
 If arc lights, what protection is provided against fire, sparks, &c. Arcs are enclosed in protected glass globes

Where are the switches controlling the masthead and side lights placed Chart room

**DESCRIPTION OF CABLES.**

Main cable	170	Amperes, comprised of	38	19 of 15 L.S.G. & 19 of 16 L.S.G.	= .135	square inches total sectional area
Main cable carrying	28		19	wires, each 18	L.S.G. diameter, .034	
" "	9.5		4	wires, each 18	L.S.G. diameter, .0125	
Branch cables carrying	3	Amperes, comprised of	3	wires, each 20	L.S.G. diameter, .0030	square inches total sectional area
" "	23.5		19	wires, each 19	L.S.G. diameter, .023	
Branch cables carrying	27.5	Amperes, comprised of	19	wires, each 18	L.S.G. diameter, .034	square inches total sectional area
" "	15		4	wires, each 17	L.S.G. diameter, .017	
Lead to Lamp carrying	34	Amperes, comprised of	19	wires, each 18	L.S.G. diameter, .034	square inches total sectional area
Main cable	16.5		4	wires, each 16	L.S.G. diameter, .022	
Cargo light cables carrying	2	Amperes, comprised of	1	wires, each 16	L.S.G. diameter, .0032	square inches total sectional area
Main cable	22.2		16	leads to lamp carrying .5 - 1 wire - 16 L.S.G.	.022	

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

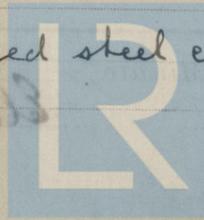
Vulcanized india rubber taped lead covered & Steel armoured for main cables Engine room, Holds etc Vulcanized india rubber taped lead covered in Saloon, Staterooms, Officers etc.

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 none

Are there any joints in or branches from the cable leading from dynamo to main switch board none

How are the cables led through the ship, and how protected Clipped up with galvanized steel clips



© 2021

Lloyd's Register Foundation

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 Twin lead covered & braided

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Steel armoured & lead covered

What special protection has been provided for the cables near boiler casings lead covered & steel armoured

What special protection has been provided for the cables in engine room lead covered & steel armoured

How are cables carried through beams Steel armoured through bulkheads, &c. Watertight glands

How are cables carried through decks galvanized deck tubes

Are any cables run through coal bunkers none 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 & steel armoured

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage none in bunkers

If so, how are the lamp fittings and cable terminals specially protected Steel armoured cable into heavy cast iron fittings

Where are the main switches and cut outs for these lights fitted steering engine House

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers none

Cargo light cables, whether portable or permanently fixed portable How fixed to cast iron Plug Boxes

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 yes supplied with a voltmeter and yes an amperemeter, fixed 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 100 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.

J. G. Guin & Mackay Ltd Electrical Engineers Date 28-6-12

COMPASSES.

Distance between dynamo or electric motors and standard compass 95 ft

Distance between dynamo or electric motors and steering compass 90 ft

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>3</u>	<u>8</u>	<u>18</u>	<u>18</u>
<u>9.5</u>	<u>14</u>	<u>22</u>	<u>22</u>
<u>27.5</u>	<u>19</u>	<u>24</u>	<u>24</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 nil course in the case of the standard compass and nil degrees on nil course in the case of the steering compass.

AILSA SHIPBUILDING CO., Limited,

Builder's Signature. Date 23rd July, 1912

GENERAL REMARKS.

This installation has been fitted on board in accordance with the rules, tested under full working conditions, and found satisfactory.

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

A. G. Forster

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

GLASGOW 30 JUL. 1912  
Elec. Light



© 2021

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

50811—Transfer.

J.M.A.  
29/7/12  
G.P.