

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17377.

Port of *Buenos Aires* Date of First Survey *24th Sept. 1912* Date of Last Survey *31st Oct. 1912* No. of Visits *11*.
 No. in on the Iron or Steel *S.S. Virginia* Port belonging to *Harmon*
 Reg. Book Built at *San Harmon* By whom *Harmon & Co* When built *1910*.
 Owners Owners' Address *San Harmon & Co*
 Yard No. *707* Electric Light Installation fitted by *Bennett & Rutherford* When fitted *1910*.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Replaced 12.36 by Stan Dimenlet 100V. 150 Amps.
One combined coupled plant 8x6" Open Type Vertical Engine No. 34301
coupled direct to compound Wound Dynamo running at 300 r.p.m.
 Capacity of Dynamo *100* 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 Dynamo* having switches to groups *Seven* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *Forecastle, Saloon, Navigation, Engine Room, Engineers Quarters, Chusters, Wireless*

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits *Yes*
 Are the fuses of non-oxidisable metal *Yes* and constructed to fuse at an excess of *2.5* per cent over the normal current
 Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases *Yes*.

Total number of lights provided for *124* arranged in the following groups:—

A	<i>23</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>13.8</i>	Amperes
B	<i>20</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>12.0</i>	Amperes
C	<i>25</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>15.0</i>	Amperes
D	<i>16</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>9.6</i>	Amperes
E	<i>29</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>14.4</i>	Amperes
F	<i>3</i>	Must head light with <i>1</i> lamps each of <i>32</i>		candle power requiring a total current of	<i>3.6</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>2.4</i>	Amperes
	<i>5</i>	Cargo lights of <i>80</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 *Chart Room*

DESCRIPTION OF CABLES.

Main cable carrying	<i>90</i>	Amperes, comprised of	<i>19</i>	wires, each	<i>14</i>	S.W.G. diameter,	<i>.094</i>	square inches total sectional area
Branch cables carrying	<i>13</i>	Amperes, comprised of	<i>4</i>	wires, each	<i>16</i>	S.W.G. diameter,	<i>.022</i>	square inches total sectional area
Branch cables carrying	<i>12</i>	Amperes, comprised of	<i>4</i>	wires, each	<i>18</i>	S.W.G. diameter,	<i>.0125</i>	square inches total sectional area
Leads to lamps carrying	<i>3</i>	Amperes, comprised of	<i>1</i>	wires, each	<i>16</i>	S.W.G. diameter,	<i>.003</i>	square inches total sectional area
Cargo light cables carrying	<i>3</i>	Amperes, comprised of	<i>1</i>	wires, each	<i>16</i>	S.W.G. diameter,	<i>.003</i>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In Accommodation cables are protected by pure vulcanised india rubber taped vulcanized together, thereafter served with Lead covering. In holds, Engine Room etc, cables are armoured with galvanized Iron Wires.
 Joints in cables, how made, insulated, and protected *No joints in ship, extension boxes used where necessary.*

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances *—* 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 fore & aft beams & to deck*
all 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

Through lead ferrules

through bulkheads, &c.

W. I. Glands.

How are cables carried through decks

Iron deck tubes, flanged bolted

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 fuses for these lights fitted

If in the spaces, how are they specially protected

Are any switches or fuses fitted in bunkers

No

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

Is the installation supplied with a voltmeter

Yes

and with an amperemeter

Yes

fired on Main Switchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 2,000 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

James M. Hunterford

Electrical Engineers

Date 15 Nov 1918

COMPASSES.

Distance between dynamo or electric motors and standard compass

160 feet

Distance between dynamo or electric motors and steering compass

150 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
6	one	one	one
1.2	four	two	two
8.0	ten	twelve	twelve

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.

James Hunterford

Builder's Signature.

Date

20th Nov 1918

GENERAL REMARKS.

The fitting of the wires in this vessel are as stated in this Report and appear to be in accordance with the Committee's requirements.

It is submitted that

this vessel is eligible for

THE RECORD Elec. Light.

W.D.

29/11/18.

James Hunterford

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 26 NOV 1918

Elec. Light

W.D.



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

NC 25.11.18

20.7.17.—Transfer.