

Hand 2

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

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No. **921892**

Port of **BUENOS AIRES**  
 Date of First Survey \_\_\_\_\_ Date of Last Survey **14-9-1922** No. of Visits \_\_\_\_\_  
 No. in Reg. Book **54007** on the ~~Iron~~ **Steel** **Twin Sc. Sr. Bahia Blanca** Port belonging to **Argentine Republic**  
 Built at **Hamburg Germany** By whom **Reiherstieg Schiffs Werfte Und Maschinen Fabrick.....** When built **1912.**  
 Owners **Navy, Argentine Government,** Owners' Address **Buenos Aires - Argentine Republic**  
 Yard No. **444** Electric Light Installation fitted by **Not known,** When fitted **1912.**

## DESCRIPTION OF DYNAMO ENGINE, ETC.

The Electric Plant is composed of **TWO** Dynamos Generators of **45.1 K.W.** each, D.C., **300 R.P.M.**, coupled to a vertical piston steam engine compound, working at a steam pressure of **150 lbs.**

Capacity of Dynamo **410** Amperes at **110** Volts, whether continuous or alternating current **Direct current.**

Where is Dynamo fixed **In the Main Engine Room,** Whether single or double wire system is used **Single and double.**

Position of Main Switch Board **In the Main Engine Room** having switches to groups **5** of power and **7** of lights, &c., as below  
**close to dynamos.**

Positions of auxiliary switch boards and numbers of switches on each **Eng. Room: 2 boards with 4 and 1 switch; Workshop: 1 board 18 switches; Alleyways Main Deck: 2 boards 42 switches; Forward Main Deck: 21 switches; Alleyways of Cargo Spaces Nrs. 3 and 5: 4 boards 37 switches; Charthouse: 1 board 6 switches; Electrical Store: 1 board 1 switch.**

If cut outs are fitted on main switch board to the cables of main circuit **There are** and on each auxiliary switch board to the cables of auxiliary circuit **There are** and at each position where a cable is branched or reduced in size **all Aux-Sw. boards.** There is not.

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 **They are made of brass nickel-plated.** Are the cut outs of non-oxidizable metal **They are.** Are the fuses of standard dimensions **They are.** 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 **There is a label on each case.**

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases **In many instances are made of porcelain.**

Total number of lights provided for **659** arranged in the following groups:-

Group	Description	Number of Lights	Each of	Wires	Candle Power	Requiring a total current of	Amperes
A		90	lights each of	16		17.00	Amperes
B		158	lights each of	16		28.44	Amperes
C		104	lights each of	16		18.72	Amperes
D		105	lights each of	16		18.90	Amperes
E		108	lights each of	16		19.44	Amperes
F		86	lights each of	16		16.28	Amps.
G 2	Mast head light with 2 lamps each of	2		16	c.p. requiring a total current of	0.72	Amperes
G 2	Side light with 2 lamps each of	2		16	candle power requiring a total current of	0.72	Amperes
16	Cargo lights of 4 lamps of 16				candle power, whether incandescent or arc lights	Incandescent.	

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

Where are the switches controlling the masthead and side lights placed **They are placed in the Charthouse.**

## DESCRIPTION OF CABLES.

Main cable carrying **500** Amperes, comprised of **N** wires, each -- L.S.G. diameter, **0.387** square inches total sectional area  
 Branch-cables carrying **20** Amperes, comprised of **7** wires, each -- L.S.G. diameter, **0.016** square inches total sectional area  
 Branch cables carrying **10** Amperes, comprised of **7** wires, each -- L.S.G. diameter, **0.008** square inches total sectional area  
 Leads to lamps carrying **5** Amperes, comprised of **1** wires, each -- L.S.G. diameter, **0.004** square inches total sectional area  
 Cargo light cables carrying **20** Amperes, comprised of **N** wires, each -- L.S.G. diameter, **Flexible cord.** square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

The cables are of two classes viz; Armoured cable with india-rubber insulation, lead-sheeted and, steel-taped, fixed by iron clips and brass screws for single wire system, and, for the double wire system is used electric insulated wire covered with a wooden guard.

Joints in cables, how made, insulated, and protected **The joints for main branches are made by soldered terminals inside of metallic boxes and, for small branches are made by screws inside of metallic boxes but not soldered, with bases of porcelain.**

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 **They are always situated in accessible position.**

Are there any joints in or branches from the cable leading from dynamo to main switch board **There is not any joint of that kind.**  
How are the cables led through the ship, and how protected **The armoured cable are fixed to the hull by iron clips and screws at a distance of 20 c/m apart, and, the single electric insulated wire are fixed inside and lined with a wooden guard.**

DO NOT WRITE ACROSS THE MARGIN.

DESCRIPTION OF INSULATION, PROTECTION, ETC. - continued.

Are they in places always accessible They are fixed in accessible places.  
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture. In places detailed herebefore the cables are protected by themselves for being armoured cables.  
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat There is not need of any protection for being armoured cables.  
 What special protection has been provided for the cables near boiler casings Some of them are protected by iron pipes.  
 What special protection has been provided for the cables in engine room As the engine room is verywell ventilated there is not need of any special protection.  
 How are cables carried through beams Throughout. through bulkheads, &c. Throughout without stuffings tubes and glands.  
 How are cables carried through decks There is not cables carried through decks, the spaces of hatchways are profited for that purpose.  
 Are any cables run through coal bunkers None or cargo spaces None or spaces which may be used for carrying cargo, stores, or baggage Yes.

If so, how are they protected By the armoured conditions of the cables only.  
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage There are lamps fitted in spaces for baggage only.  
 If so, how are the lamp fittings and cable terminals specially protected They are protected by a lid of armour-plate.  
 Where are the main switches and cut outs for these lights fitted Out of the baggage spaces, at the correspondent auxiliars switch boards.  
 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 They are portables. How fixed -----  
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Right at the base of dynamo generator on each case.  
 How are the returns from the lamps connected to the hull They are connected on each case to the lamp fitting, and, the fittings to the hull by four screws.  
 Are all the joints with the hull in accessible positions Yes they are always in accessible positions.  
 The installation is At work in good order supplied with 3 voltmeter and 2 amperemeter, fixed On main Switch Board and cabin of the Chief Engineer

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 99.00 per cent. that of pure copper.  
 Insulation of cables is guaranteed to have a resistance of not less than 1. megohms per statute mile after 24 hours' immersion in seawater.

The foregoing statements are a correct description of the Electric Light installation survey fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

M. J. Racy Electrical Engineers Date 14 - 9 - 1922.

COMPASSES.

Distance between Searchlight circuit dynamo or electric motor and standard compass 27 feet.  
 Distance between Searchlight circuit dynamo or electric motor and steering compass 14 feet.

The nearest cables to the compasses are as follows:—

Cable Description	Amperes	Feet from standard compass	Feet from steering compass
A cable carrying <u>80</u>	<u>27</u>	<u>14</u>	<u>14</u>
A cable carrying <u>-----</u>	<u>-----</u>	<u>-----</u>	<u>-----</u>
A cable carrying <u>-----</u>	<u>-----</u>	<u>-----</u>	<u>-----</u>

Have the compasses been adjusted with and without the electric installation at work at full power There is no information over the matter  
 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.

Builder's Signature. Date

GENERAL REMARKS. It was consider the distance between Searchlight and Standard or Steering compass only instead of Dynamos for the reason that they are installed at a distance far greater from both Compasses.

It is submitted that this vessel is eligible for THE RECORD. Electric Light 24/11/22 J. B. Smith Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.