

Colombo

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 70374

Port of NEWCASTLE-ON-TYNE Date of First Survey 3rd Aug Date of Last Survey 10th Oct 17 No. of Visits 12
 No. in Reg. Book 367 on the Iron or Steel San. Gennaro Part belonging to Palmer
 Built at Newcastle By whom Palmer & Co When built 1917-7
 Owners De. de Nav. - Top. Junta Argentina Owners' Address
 Yard No. 543 Electric Light Installation fitted by Palmer's Electrical Dept. When fitted 13-10-17.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

There are 3 (Three) Engines & Dynamoes Engines by E Hindley & Sons Burton Dorset and Dynamoes by Bruce Peebles & Co Edinburgh. 2 of these replaced by 2-80 KW sets 1-28

Capacity of Dynamo 510 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed In Engine Room. Whether single or double wire system is used Double.

Position of Main Switch Board Beside Dynamoes having switches to groups 11 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 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 100 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 298 arranged in the following groups:—

<u>Navigation & Bridge Accom</u>	lights each of <u>16 lamps of 32 c.p.</u>	candle power requiring a total current of <u>30.5</u>	Amperes
<u>Engines Accom & W.T. Dept</u>	lights each of <u>77 lamps of 16 c.p.</u>	candle power requiring a total current of <u>44</u>	Amperes
<u>C Forward Accom.</u>	lights each of <u>44 lamps 16 c.p.</u>	candle power requiring a total current of <u>25</u>	Amperes
<u>D Aft Accom</u>	lights each of <u>17 lamps 16 c.p.</u>	candle power requiring a total current of <u>7.5</u>	Amperes
<u>E Engine & Boiler Rooms</u>	lights each of <u>113 lamps 16 c.p.</u>	candle power requiring a total current of <u>63</u>	Amperes
<u>2 Mast head light</u>	with <u>1</u> lamps each of <u>32</u>	candle power requiring a total current of <u>1</u>	Amperes
<u>2 Side light</u>	with <u>1</u> lamps each of <u>32</u>	candle power requiring a total current of <u>1</u>	Amperes
<u>12 Cargo lights</u>	of <u>160</u>	candle power, <u>each</u> 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 In New Chart House

DESCRIPTION OF CABLES.

Main cable carrying 510 Amperes, comprised of 91 wires, each .098 L.S.G. diameter, .7 square inches total sectional area

Branch cables carrying 50 Amperes, comprised of 19 wires, each .14 L.S.G. diameter, .094 square inches total sectional area

Branch cables carrying 25 Amperes, comprised of 7 wires, each .16 L.S.G. diameter, .022 square inches total sectional area

Leads to lamps carrying 3 Amperes, comprised of 1 wires, each .17 L.S.G. diameter, .0025 square inches total sectional area

Cargo light cables carrying 1.6 Amperes, comprised of 7 wires, each .18 L.S.G. diameter, .0125 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All Cables in Engine & Boiler and cargo spaces Lead covered, Armoured & braided.

All cables in Accommodation V.I.R. run in wood casing

All cables protected where liable to damage.

Joints in cables, how made, insulated, and protected 1 cable size $\frac{37}{16}$ Armoured was drilled into. A Brass joint box was inserted to make a good mechanical join. This box was provided with W.T. lid & glands. Position of box - on upper deck forward.

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 Armoured cables lead through beams. V.I.R. cables in Wood Casing.

8010-9401M



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 Cables in exposed positions are all lead covered.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat None

What special protection has been provided for the cables near boiler casings None

What special protection has been provided for the cables in engine room Armoured wire used. Tubing under cylinders

How are cables carried through beams Through well-drafted holes through bulkheads, &c. In W.T. glands.

How are cables carried through decks in W.T. Deck tubes.

Are any cables run through coal bunkers or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Armoured & lead covered & braided.

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 Yes supplied with a voltmeter and Yes 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 95% per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2500 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.

Palmers Shipbuilding & Iron Co., Ltd. Date Nov. 13th 1917.
Electrical Engineers

COMPASSES.

Distance between dynamo or electric motors and standard compass 350ft

Distance between dynamo or electric motors and steering compass 350ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>1.5</u>	Amperes	<u>on</u>	feet from standard compass	<u>10ft</u>	feet from steering compass
A cable carrying	<u>1.5</u>	Amperes	<u>10ft</u>	feet from standard compass	<u>on</u>	feet from steering compass
A cable carrying	<u>✓ 2500</u>	Amperes	<u>✓</u>	feet from standard compass	<u>✓</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power ✓

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.

J. H. Hutchison Builder's Signature. Date 13th Nov 1917
SHIPYARD MANAGER

GENERAL REMARKS.

This electric lighting installation has been fitted in accordance with the rules and satisfactorily tested with all lights on.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

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

Committee's Minute



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.