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Ship No. 45305

Rpt. 13.

Received at Lloyd's Office 28 MAY 1903

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 45305

Port of Newcastle Date of First Survey Oct 17 Date of Last Survey 24<sup>th</sup> Feb 1902 No. of Visits 2  
 No. in Reg. Book on the Iron or Steel S. Gumari Port belonging to \_\_\_\_\_  
 Built at Blyth By whom Blyth SBC (No. 112) When built 1902  
 Owners Lombard & Co Owners' Address \_\_\_\_\_  
 Yard No. 112 Electric Light Installation fitted by Patterson Cooper & Co Ltd When fitted 1902

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

6 1/2 B.N.P. Vertical Engine at 80 lb. sq. in., cylinders 5 1/2 x 5, 350 revs. per minute direct coupled to 4 pole dynamo, slotted drum wound armature.

Capacity of Dynamo 42 Amperes at 110 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room

Position of Main Switch Board Engine Room having switches to groups A.B.C.D. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each \_\_\_\_\_

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 \_\_\_\_\_

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 Yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 42 arranged in the following groups:—

A	<u>20</u>	lights each of	<u>8</u>	candle power requiring a total current of	<u>6</u>	Amperes		
B	<u>14</u>	lights each of	<u>8</u>	candle power requiring a total current of	<u>4.2</u>	Amperes		
C	<u>9</u>	lights each of	<u>8</u>	candle power requiring a total current of	<u>2.7</u>	Amperes		
D	—	lights each of	—	candle power requiring a total current of	—	Amperes		
E	—	lights each of	—	candle power requiring a total current of	—	Amperes		
	—	Mast head light with	—	lamps each of	—	candle power requiring a total current of	—	Amperes
	—	Side light with	—	lamps each of	—	candle power requiring a total current of	—	Amperes
	—	Cargo lights of	—	—	—	candle power, whether incandescent or arc lights	—	Amperes

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

Where are the switches controlling the masthead and side lights placed \_\_\_\_\_

## DESCRIPTION OF CABLES.

Main cable carrying	<u>613</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>18</u>	L.S.G. diameter,	<u>.0343</u>	square inches total sectional area
Branch cables carrying	<u>6</u>	Amperes, comprised of	<u>4</u>	wires, each	<u>18</u>	L.S.G. diameter,	<u>.0126</u>	square inches total sectional area
Branch cables carrying	<u>4.2</u>	Amperes, comprised of	<u>4</u>	wires, each	<u>18</u>	L.S.G. diameter,	<u>.0126</u>	square inches total sectional area
Leads to lamps carrying	<u>2.37</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>18</u>	L.S.G. diameter,	<u>.0018</u>	square inches total sectional area
Cargo light cables carrying	—	Amperes, comprised of	—	wires, each	—	L.S.G. diameter,	—	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All conductors of high conductivity (98%) Copper, vulcanized india-rubber taped, braided, & jacketed over all, minimum insulation resistance not less than 600 megohms per mile after 24 hours immersion in sea water.

Joints in cables, how made, insulated, and protected no joints, all connections being looped.

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 In iron pipe in Engine Room, bunkers, wood casing in Saloon & Accommodation.



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**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 In galvanized iron tubes.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat In galvanized iron tubes.

What special protection has been provided for the cables near boiler casings In galvanized iron tubes.

What special protection has been provided for the cables in engine room In galvanized iron tubes.

How are cables carried through beams Insulating wood plugs through bulkheads, &c. Watertight glands.

How are cables carried through decks Through galvanized iron tubes standing 12' above deck.

Are any cables run through coal bunkers Yes or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage No

If so, how are they protected In galvanized iron tubes.

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 No.

Cargo light cables, whether portable or permanently fixed — How fixed —

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel By brass tapped bolts.

How are the returns from the lamps connected to the hull by means of brass screwed bolts washers

Are all the joints with the hull in accessible positions Yes.

**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 installation is — supplied with a voltmeter and — an amperemeter, fixed on switchboards

The copper used is guaranteed to have a conductivity of 98 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.

**PATERSON, COOPER & CO., LIMITED,**

W. Arthur Ker DIRECTOR

Electrical Engineers

Date 10/11/02

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 60ft.

Distance between dynamo or electric motors and steering compass 60ft.

The nearest cables to the compasses are as follows:—

A cable carrying <u>6</u> Amperes	<u>12</u> feet from standard compass	<u>12</u> feet from steering compass
A cable carrying <u>—</u> Amperes	<u>—</u> feet from standard compass	<u>—</u> feet from steering compass
A cable carrying <u>—</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 No

The maximum deviation due to electric currents, etc., was found to be — degrees on — course in the case of the standard compass — course in the case of the steering compass.

Mason

GENERAL MANAGER AND SECRETARY

Builder's Signature.

Date

**GENERAL REMARKS.**

This installation appears to be fitted in a satisfactory manner and in accordance with the rules

Andrew J Graham

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules.

Lloyd's Register Foundation  
J.M. 28/5/03

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.