

Rpt. 13.

Received at Lloyd's Register 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 St. Yumuri 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., 6 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		Amperes
		Side light with		lamps each of		Amperes
		Cargo lights of		candle power, whether incandescent or are lights		

If are 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 613 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0343 square inches total sectional area  
 Branch cables carrying 6 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0126 square inches total sectional area  
 Branch cables carrying 42 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0126 square inches total sectional area  
 Leads to lamps carrying 2.37 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 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, & overcoated 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 No 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



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

iron tubes.

In galvanized

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 Switchboard

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.

PETERSON, COOPER & CO., LIMITED,

W. Arthur Ker

DIRECTOR

Electrical Engineers

Date

10/11/02

COMPASSES.

Distance between dynamo or electric motors and standard compass

60 ft.

Distance between dynamo or electric motors and steering compass

60 ft.

The nearest cables to the compasses are as follows:—

A cable carrying

6

Amperes

12

feet from standard compass

12

feet from steering compass

A cable carrying

Amperes

feet from standard compass

—

feet from steering compass

A cable carrying

Amperes

feet from standard compass

—

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.

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  
28/5/03  
Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.