

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11398

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No. 11398

Port of Greenock Date of First Survey 6<sup>th</sup> Jan/96 Date of Last Survey 4<sup>th</sup> Feb/96 No. of Visits 8  
 on the Iron or Steel Thos. S. Lawrie & Co. Port belonging to Parad.  
 Built at Port Glasgow By whom Russell & Co. When built 1896  
 Owners The Amoyou S. N. Co. (Rin.) Owners Address 34, Great St. Helens, London.  
 No. 388. Electric Light Installation fitted by Clarke Chapman & Co. When fitted Jan/Feb/96

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Combined Engine & Dynamo mounted on one bedplate, capable of an output of 6600 watts at 350 revolutions per minute  
 Capacity of Dynamo 100 Amperes at 65 Volts, whether continuous or alternating current Continuous  
 There is Dynamo fixed on Engine Room Grating level with deck  
 Position of Main Switch Board adjt forward (head) level with Dynamo having switches to groups A B C of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Branches carried from this board to the 3 different circuits, one circuit in Engine room, one forward & one in aft part of vessel - 22 on Spar Deck, 24 Main Deck, 12 in Engine Room & Storehold  
 Cut outs are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch boards 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

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 82 arranged in the following groups :-

Group	Description	Number of Lights	Candle Power	Current (Amperes)
A	12 Engine Room lights each of	12	12	12
B	46 Main Deck lights each of	46	46	46
C	24 Spar Deck lights each of	24	24	24
D	lights each of			
E	lights each of			
None	Mast head light with lamps each of	-		
None	Side light with lamps each of	-		
4	Cargo lights of 6 - 16	4	16	16

candle power, whether incandescent or arc lights Incandescent

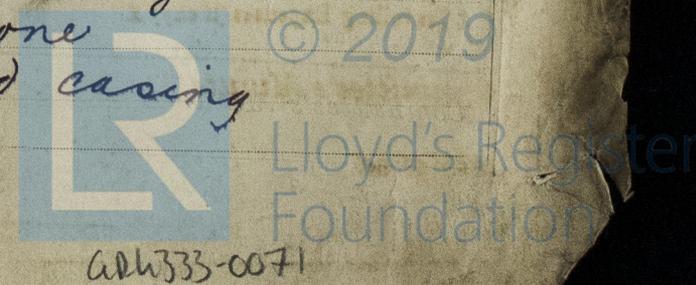
If arc lights, what protection is provided against fire, sparks, &c. ✓  
 Where are the switches controlling the masthead and side lights placed ✓

## DESCRIPTION OF CABLES.

Number of Cables	Amperes	Wires	Wire Diameter (L.S.G.)	Total Sectional Area (square inches)
Main cable carrying <u>50</u>	50	19	16	0.061
Branch cables carrying <u>22</u>	22	7	16	0.022
Branch cables carrying <u>12</u>	12	7	18	0.027
Leads to lamps carrying <u>1</u>	1	1	16 or 18	0.018
Cargo light cables carrying <u>6</u>	6	351 + 44	0.006 + 0.018	0.019 + 0.014

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

H & R Silvertown's manufacture  
 Cables in machinery spaces exposed portions lead covered  
 Joints in cables, how made, insulated, and protected Soldered, pure rubber, pure rubber tape, pure rubber solution, prepared tape & varnished  
 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 None  
 How are the cables led through the ship, and how protected In strong wood casing



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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 Lead cov<sup>d</sup> in strong wood casing.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat ✓

What special protection has been provided for the cables near boiler casings Lead cov<sup>d</sup> & strong casing

What special protection has been provided for the cables in engine room do

How are cables carried through beams in hardwood insulators <sup>and bulkheads</sup> through bulkheads, &c.

How are cables carried through decks in deck tubes projecting 12" above decks

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

If so, how are they protected —

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage —

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 Special cons attached Con boxes

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 —

**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 Yes supplied with a voltmeter and no an amperemeter, fixed on main Switchboard

The copper used is guaranteed to have a conductivity of 96 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.

M. Clarke For Clarke, Chapman & Co. Ltd. Electrical Engineers Date 13. 2. 96

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 73 ft

Distance between dynamo or electric motors and steering compass 77 ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>75</u>	Amperes	<u>15 ft</u>	feet from standard compass	<u>15</u>	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 Yes

The maximum deviation due to electric currents, etc., was found to be (no deviation) degrees on ✓ course in the case of the standard compass and (no deviation) degrees on ✓ course in the case of the steering compass.

Ruppell Hg. Builder's Signature Date 14<sup>th</sup> Feb 1896

**GENERAL REMARKS.**

The above named installation has been fitted under our inspection and to our satisfaction.

J. J. House A. S. Heron, Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute —

This installation appears to be satisfactory

J. M. Lloyd's Register of British and Foreign Shipping  
17/2/96

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS

REPORT FORM No. 15.