

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5963.

Port of Antwerp Date of First Survey 20-11-03 Date of Last Survey 5-12-04 No. of Visits 14.  
 No. in on the Iron Steel s/s "Rosina" Port belonging to Andros  
 Reg. Book Built at Hoboken near Antwerp De Chantier Naval Andros When built 1904  
 Owners A. Embericos Owners' Address Andros, Greece  
 Yard No. 23 Electric Light Installation fitted by J. H. Holmes & Co. When fitted 1904

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single Engine vertical type engine - compound wound,  
continuous current dynamo.  
 Capacity of Dynamo 50 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed In Engine Room  
 Position of Main Switch Board on bulkhead having switches to groups A.B.C.D.E. of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1 in Engine Room (6 switches)  
1 for Cargo (4 switches).

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 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 Porcelain.

Total number of lights provided for 90 arranged in the following groups:—

A (Saloon)	18	lights each of	16	candle power requiring a total current of	10.8	Amperes
B (Berths)	15	lights each of	16	candle power requiring a total current of	9	Amperes
C (E.R.)	18	lights each of	16	candle power requiring a total current of	10.8	Amperes
D (Pottle)	7	lights each of	16	candle power requiring a total current of	4.2	Amperes
E (U.S.R.)	12	lights each of	16	candle power requiring a total current of	7.2	Amperes
2. Cargo	20	lights each of	16	candle power requiring a total current of	12.0	Amperes
1 Mast head light with	1	lamps each of	32	candle power requiring a total current of	1.2	Amperes
2 Side light with	1	lamps each of	32	candle power requiring a total current of	1.2	Amperes
4 Cargo lights of			16	candle power, whether incandescent or <del>are</del> lights	3	

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

Where are the switches controlling the masthead and side lights placed Wheel House.

## DESCRIPTION OF CABLES.

Main cable carrying 50 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area  
 Branch cables carrying 10 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0127 square inches total sectional area  
 Branch cables carrying 9 Amperes, comprised of 7 wires, each 19 L.S.G. diameter, .0089 square inches total sectional area  
 Leads to lamps carrying 4 Amperes, comprised of 7 wires, each 21.5 L.S.G. diameter, .005 square inches total sectional area  
 Cargo light cables carrying 3 Amperes, comprised of 7 wires, each 21.5 L.S.G. diameter, .005 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

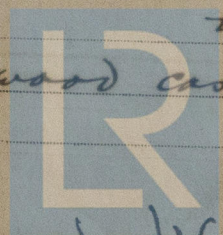
Vulcanized rubber + braided wire in iron pipe for  
tween decks. Iron casings in Engine Room, wood casings  
in cabins.

Joints in cables, how made, insulated, and protected No joints (boxes).

Are all the joints of cables thoroughly soldered, resin only having been used as a flux None 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 as above, pipes + 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

*Iron pipes*

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

*Pipes & tank casings*

What special protection has been provided for the cables near boiler casings

*Iron casings*

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

How are cables carried through beams

*Fibre ferrules*

through bulkheads, &c.

*flanges*

How are cables carried through decks

*Iron pipes*

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

*Iron pipes*

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

*✓*

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

supplied with a voltmeter and

an amperemeter, fixed

*✓*

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.

*L. S. Cambridge*

Electrical Engineers

Date *19-2-04*

**COMPASSES.**

Distance between dynamo or electric motor and standard compass

*92 feet*

Distance between dynamo or electric motor and steering compass

*90 "*

The nearest cables to the compasses are as follows:—

A cable carrying *7* Amperes *10* feet from standard compass *10* 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 *nil* degrees on *nil* course in the case of the standard compass and *no* degrees on *✓* course in the case of the steering compass.

*Kander & Co. Compass Minder*

Builder's Signature.

Date *19/2/04*

**GENERAL REMARKS.**

*The fittings are substantial & good.*

*H. P. Cornish*

Surveyor to Lloyd's Register of British and Foreign Shipping

Committee's Minute

*It is submitted that this installation appears to be satisfactory.*