

Rpt. 13.

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2839

Port of Trieste Date of First Survey Oct 25<sup>th</sup> 11 Date of Last Survey Jan 16<sup>th</sup> 12 No. of Visits 12  
 No. in Reg. Book on the Iron or Steel Espr. Helouan Port belonging to Trieste  
 Built at Trieste By whom Lloyd Austriaco When built 1912  
 Owners Lloyd Austriaco Owners' Address Trieste  
 Yard No. 126 Electric Light Installation fitted by Giuliers When fitted 1912

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Steam turbines by Brown Boveri 16° each coupled to a compound  
horizontal dynamo.

Capacity of Dynamo 2 of 900 & 1 of 550 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Top platform in E. Room Whether single or double wire system is used Double

Position of Main Switch Board near Dynamos having switches to groups 30 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 2 in Dynamo Room of 12 + 5 switches, 3 on  
main deck with 16, 20 + 16 switches, 3 in 1<sup>st</sup> class Party with 11, 11 + 13 switches &  
numerous further subdivisions from these boards.

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 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 No wire fuses

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

Total number of lights provided for 1220 arranged in the following groups:—

Group	Description	Number of Lights	Candle Power	Current (Amperes)
A	light of	107	1076	50
B	lights each of	24	16	12
C	lights each of	53	1076	24
D	lights each of	154	1076	70
E	lights each of	30	16	8
F	lights each of	27	25, 32, 176	20
G	lights each of	58	10	26
H	lights each of	42	1076	20
I	lights each of	150	1076	70
J	lights each of	114	1076	56
K	lights each of	142	10	50
2	Mast head light with 4 lamps each of	4	16	4
2	Side light with 2 lamps each of	2	32	4
58	Cargo lights of	58	10	20

If arc lights, what protection is provided against fire, sparks, &c. No arc lights.

Where are the switches controlling the masthead and side lights placed In chart room.

## DESCRIPTION OF CABLES.

Main cable carrying 900 Amperes, comprised of 217 wires, each about 1/4 L.S.G. diameter, 1.05 square inches total sectional area  
 Branch cables carrying 550 Amperes, comprised of 155 wires, each 1/4 L.S.G. diameter, .75 square inches total sectional area  
 Branch cables carrying 77 Amperes, comprised of 19 wires, each 1/5 L.S.G. diameter, .075 square inches total sectional area  
 Leads to lamps carrying 22 Amperes, comprised of 1 wires, each 1/5 L.S.G. diameter, .004 square inches total sectional area  
 Cargo light cables carrying 5 Amperes, comprised of 20 wires, each L.S.G. diameter, .006 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

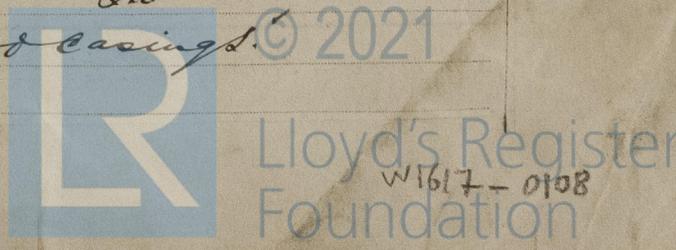
Cables are covered first with pure rubber, then with a separator then with vulcanizing rubber, then with waterproof tape, & a cotton water-proof covering. Cables in some places are armoured & lead covered.

Joints in cables, how made, insulated, and protected Soldered & insulated with water proof tape  
Some joints are in watertight boxes.

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 through tubes & wood casings.



**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 *Insulated iron tubes*

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

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

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

How are cables carried through beams *through wood & lead bushes through bulkheads, &c.* *Screwed glands* ✓

How are cables carried through decks *tubes & screwed glands* ✓

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

If so, how are they protected *Lead covered & insulated cables clipped under decks* ✓

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

If so, how are the lamp fittings and cable terminals specially protected *Extra strong cases & lamp covers* ✓

Where are the main switches and cut outs for these lights fitted *Outside the spaces* ✓

If in the spaces, how are they specially protected *No* ✓

Are any switches or cut outs fitted in bunkers *No* ✓

Cargo light cables, whether portable or permanently fixed *Portable* ✓ How fixed *No* ✓

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 *supplied with 2 voltmeters and 3 amperemeters fixed on main board* ✓

**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 *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.

*C. Miller* Electrical Engineers Date *26 January 1912*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *90 feet*

Distance between dynamo or electric motors and steering compass *90 feet*

The nearest cables to the compasses are as follows:—

A cable carrying <i>14.9</i> Amperes	<i>10</i> feet from standard compass	<i>10</i> 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 *varying* course in the case of the standard compass and *nil* degrees on *varying* course in the case of the steering compass.

*C. Miller* Builder's Signature. Date *26 January 1912*

**GENERAL REMARKS.**

*This installation has been fitted in accordance with the rules stated & found satisfactory.*

*It is submitted that this vessel is eligible for THE RECORD. Elec. light.* *J.W.D. P.R.S.* *1/27/12* *G. Ritchie*

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

