

## REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 3484

Port of *Genoa* Date of First Survey *Oct 13<sup>th</sup> 05* Date of Last Survey *Nov 25<sup>th</sup> 05* No. of Visits *6*  
 No. in on the *Iron or Steel* *S.S. "Mendoza"* Port belonging to *Genoa*  
 Reg. Book *25 Sup.* Built at *Newcastle* By whom *Armstrong Whitworth & Co. Ltd.*  
 Owners *Compagnia Lloyd Italiano* Owners' Address *Genoa* When built *1904-11*  
 Card No. *100* Electric Light Installation fitted by *L. E. Holmes & Co. of Newcastle*  
*and modified by L. E. Holmes & Co. of Genoa*

DESCRIPTION OF DYNAMO, ENGINE, ETC. *2 Compound Shunt Wound Dynamos (Castle Dynamos)*  
*with vertical engines, as originally fitted (see Newcastle Surveyors Report)*

Capacity of Dynamos *3300* Amperes at *100* Volts, whether continuous or alternating current *Continuous*  
 Where *no* Dynamos fixed *In a recess of E. Room at top platform* Whether single or double wire system is used *Double wire system*  
 Position of Main Switch Board *near dynamos* having switches to groups *12* of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each *near the main switch board in E. Room*

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

Total number of lights provided for *479* arranged in the following groups:— *as shown on attached list*  
 A lights each of candle power requiring a total current of Amperes  
 B lights each of candle power requiring a total current of Amperes  
 C lights each of candle power requiring a total current of 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  
*2* Mast head light with *1* lamps each of *25* candle power requiring a total current of *1.6* Amperes  
*2* Side light with *1* lamps each of *16* candle power requiring a total current of *1.0* Amperes  
*8* Cargo lights of *16* candle power requiring a total current of Amperes

If arc lights, what protection is provided against fire, sparks, &c. *Incandescent*

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

DESCRIPTION OF CABLES. *see attached list for details*

*2* Main cables carrying *165 (each)* Amperes, comprised of *19* wires, each *12* L.S.G. diameter, *329.906* square inches total sectional area  
 Branch cables carrying Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area  
 Branch cables carrying Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area  
 Leads to lamps carrying *1.8* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *1.80* square inches total sectional area  
 Cargo light cables carrying *13* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, *12.921* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Wires covered with a layer of india rubber, then with a separator, then with a layer of vulcanised india rubber, & then with a layer of india rubber coated tape. The whole then vulcanised together & covered with waterproof fibre.*

Joints in cables, how made, insulated, and protected *Thoroughly soldered, and the insulation carefully turned out, all joints made*

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 *In the engine room & armistep cabins &c. in wooden coverings as originally arranged. In the hold.*  
*emigrant spaces (where modified) in wooden battens.*

Office fee - *10* Rendered 27/11/05  
 Free - *1-10* Paid 16/12/05  
 Expenses - *2-2*



**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 *None exposed to moisture*

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

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

How are cables carried through beams *In wooden thimbles*

How are cables carried through decks *In iron pipes* through bulkheads, &c. *In stuffing boxes*

Are any cables run through coal bunkers *No* or cargo spaces *No* — *Yes, if holes are fitted for emigrants*

If so, how are they protected *In wood battens with screwed covers.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *In the emigrants quarters*

If so, how are the lamp fittings and cable terminals specially protected *Wire guards*

Where are the main switches and cut outs for these lights fitted *In the engine room*

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*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *How fixed*

How are the returns from the lamps connected to the hull *Single wire system*

Are all the joints with the hull in accessible positions

The installation is *Yes* supplied with *2* voltmeters and *2* 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 *Does not carry petroleum*

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.

*Modified & fitted*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *50 feet*

Distance between dynamo or electric motors and steering compass *50 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>17.5</i>	<i>20</i>	<i>20</i>	
<i>14.0</i>	<i>30</i>	<i>30</i>	
<i>28.1</i>	<i>25</i>	<i>25</i>	

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* degrees on *each* course in the case of the standard compass and *0* degrees on *each* course in the case of the steering compass.

**GENERAL REMARKS.**

*The modifications made in this installation in order to fit the ship for carrying emigrants, have been examined during the work, & the materials & workmanship are good, & in accordance with the Society's rules*

Builder's Signature. Date

Committee's Minute

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

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

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.