

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 49382

Port of Newcastle Date of First Survey Aug 26 '04 Date of Last Survey Sept 13 '05 No. of Visits 4  
 No. in 1 on the Iron Steel 1/2 Mendoza Port belonging to Genoa  
 Reg. Book 1 Built at Walker on Lynne By whom W. G. Carrington Whitworth When built 1904  
 Owners Lloyd's Station Soc de Navag Owners' Address Genoa  
 Yard No. 739 Electric Light Installation fitted by H. Holmes & Co. When fitted 1904.5

## DESCRIPTION OF DYNAMOS ENGINES ETC.

Two 6 1/4" x 11 1/2" x 8" C.C.C.C. open type engines 180 lbs coupled to two Holmes dynamo compound wound N° 22/RH.

Capacity of Dynamo 220 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed on platform in eng room.

Position of Main Switch Board on engine having switches to groups A B C D of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

SEE SKETCH

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 no

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

yes are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit

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

Total number of lights provided for 378 arranged in the following groups:—

A lights 57 lights each of 16 candle power requiring a total current of 34.0 Amperes

B lights 92 lights each of - candle power requiring a total current of 55.0 Amperes

C lights 80 lights each of - candle power requiring a total current of 46.0 Amperes

D lights 149 lights each of - candle power requiring a total current of 90.0 Amperes

E lights - lights each of - candle power requiring a total current of - Amperes

2 Mast head lights with 1 lamps each of 32 candle power requiring a total current of 32 Amperes

2 Side lights with 1 lamps each of - candle power requiring a total current of - Amperes

Cargo lights of - candle power, whether incandescent or arc lights

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

Where are the switches controlling the masthead and side lights placed in wheel house.

## DESCRIPTION OF CABLES.

Main cable carrying 220 Amperes, comprised of 61 wires, each 15 L.S.G. diameter, .245 square inches total sectional area

Branch cables carrying 66 Amperes, comprised of 19 wires, each 17 L.S.G. diameter, .046 square inches total sectional area

Branch cables carrying 90 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .094 square inches total sectional area

Leads to lamps carrying 6 Amperes, comprised of 1 wire, each 18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 36 Amperes, comprised of 108 wires, each 38 L.S.G. diameter, .0074 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables reinsulated with pure rubber vulc. & taped & where enclosed in mouldings further braided overall, where covered over consists of galv. wire braided overall & in staterooms lead covered with approved rubber protective tape &c.

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 no

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 for min. events over cable clipped up. in staterooms &c. clipped up & in saloon taped & braided wire behind mouldings



**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 *armoured cable banded over*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *no*

What special protection has been provided for the cables near boiler casings *no*

What special protection has been provided for the cables in engine room *no*

How are cables carried through beams *insulating bushes* through bulkheads, &c. *stiffening brace*

How are cables carried through decks *deck tubes*

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

If so, how are they protected *armoured*

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 *no*

Where are the main switches and cut outs for these lights fitted *no*

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 *no*

How are the returns from the lamps connected to the hull *no*

Are all the joints with the hull in accessible positions *no*

**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 *no*

Are any switches, cut outs, or joints of cables fitted in the pump room or companion *no*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *no*

The installation is *no* supplied with a voltmeter and *no* an amperemeter, fixed *no*

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.

*J. H. Holmes & Co.*

Electrical Engineers

Date *Sep. 19 05*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *about 160 ft.*

Distance between dynamo or electric motors and steering compass *" 140 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>6.6</i>	<i>12</i>	<i>8</i>	
<i>9.6</i>	<i>30</i>	<i>30</i>	
<i>27</i>	<i>45</i>	<i>40</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 *nil* degrees on *all* courses in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

*R. Saxton White*

Builder's Signature.

Date *29/9/05*

**GENERAL REMARKS.**

*This installation has been examined & found satisfactory*

*J. J. Lindley*

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

Committee's Minute

It is submitted that this installation appears to be satisfactory  
Lloyd's Register  
3.10.05

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.