

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6761

Port of *Dundee* Date of First Survey *20th June* Date of Last Survey *16th Aug* No. of Visits *13*
No. in Reg. Book on the *Steel* *S.S. "Monterideo"* Port belonging to *Hamburg*
Built at *Dundee* By whom *Messrs Gourlay Bros & Co* When built *1901*
Owners *Hamburg Südamerikanische Dampfschiff Gesellschaft* Owners' Address
Yard No. *197* Electric Light Installation fitted by *J. Charters, Glasgow* When fitted *1901*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound wound dynamo, coupled direct to single cylinder engine, speed 350 Rev per minute
Capacity of Dynamo *145* Amperes at *65* Volts, whether continuous or alternating current *continuous*
Where is Dynamo fixed *Engine Room starting platform*
Position of Main Switch Board *Engine Room* having *7* switches to groups *A B C D E F* of lights, &c., as below
Positions of auxiliary switch boards and numbers of switches on each *A in Engine Room, 9 fuses; B Forecastle 4; C Prop 4; D Saloon pantry 12; E Mess Room 6; F main switch board.*
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 *yes*
Total number of lights provided for *108 - 16 Cps* arranged in the following groups:—
A *Engine Room* 25 lights each of *16* candle power requiring a total current of *24.5* Amperes
B *Forecastle* 8 lights each of *16* candle power requiring a total current of *7.8* Amperes
C *Prop* 10 lights each of *16* candle power requiring a total current of *9.8* Amperes
D *Saloon* 22 lights each of *16 & 32 (Respectively)* candle power requiring a total current of *29.4* Amperes
E *Officers Room* 15 lights each of *16* candle power requiring a total current of *14.7* Amperes
2 Mast head light with 2 lamps each of *32* candle power requiring a total current of *3.02* Amperes
2 Side light with 1 lamp each of *32* candle power requiring a total current of *3.02* Amperes
F 20 Cargo lights of *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 *In chart-house*

DESCRIPTION OF CABLES.

	Amperes	comprised of	wires, each	L.S.G. diameter	square inches total sectional area
Main cable carrying	105.8		37	16	.119
A Branch	24.5		7	15	.0285
B Branch cables carrying	7.8		7	18	.0127
C " " "	9.8		7	18	.0127
D Branch cables carrying	29.4		7	15	.0285
E " " "	14.7		7	16	.0225
Leads to lamps carrying	1.96		1	18	.0018
F Cargo light cables carrying	4.9		7	18	.0127
" " " "	4.9		7	20	.0088

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure and vulcanized rubber; rubber coated tape the whole vulcanized together, braided and coated with compound; armoured cables, armoured with galvanized wire; cables exposed to weather, lead sheathed and armoured with galvanized wire
Joints in cables, how made, insulated, and protected *none*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *✓* 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 *armoured cables held by clips; except a few in cabins which are braided and held by clips (See Secretary's letter E, 4.7.01)*

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 covered and armoured*

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

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

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

How are cables carried through beams *armoured* through bulkheads, &c. *W.T. Brass glands*

How are cables carried through decks *iron pipes*

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 *armoured*

Are any lamps fitted in ~~cabins~~ or spaces which may at times be used for cargo, coals, or baggage *yes, in Peep*

If so, how are the lamp fittings and cable terminals specially protected *strong cast-iron covers*

Where are the main switches and cut outs for these lights fitted *at auxiliary fuel box*

If in the spaces, how are they specially protected *✓*

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *Brass terminals*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Large Brass terminal bolted to frame*

How are the returns from the lamps connected to the hull *3/8" brass screws and brass washers*

Are all the joints with the hull in accessible positions *yes*

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 *also* supplied with a voltmeter and *also* an amperemeter, fixed *Main S. Board*

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. Charters

Electrical Engineers

Date *16 Aug 1901*

COMPASSES.

Distance between dynamo or electric motors and standard compass *92 ft*

Distance between dynamo or electric motors and steering compass *154 ft*

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
A cable carrying <i>10.8</i>	<i>17</i>	<i>47</i>	
A cable carrying <i>9.8 (bargo)</i>	<i>17</i>	<i>17</i>	
A cable carrying <i>1.9</i>	<i>✓</i>	<i>18</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 *✓* course in the case of the standard compass and *nil* degrees on *✓* course in the case of the steering compass.

Gourlay Brothers & Co

Builder's Signature.

Date *Aug 17 1901*

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules and Secretary's letter E-47-01. The materials and workmanship are good and render the vessel eligible in my opinion to have the notation of "Electric Light" in the Registry Book.

W. Morrison

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

Committee's Minute

It is submitted that this installation appears to meet the requirements of the Rules



Lloyd's Register
Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 14.