

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2590^c

Port of *Havre* Date of First Survey *26th Sept 07* Date of Last Survey *21st Dec 1907* No. of Visits *nine*
 No. in Reg. Book on the ~~Iron~~ Steel S.S. "*COLBERT*" Port belonging to *Havre*
59 Built at *Havre* By whom *Soc. An. de Forges & Chant de la Médit* When built *1907*
 Owners *E. Gross Esq.* Owners' Address *✓*
 Yard No. *324* Electric Light Installation fitted by *Soc. An. de Forges & Chant de la Médit* When fitted *1907*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Fullon Dynamo no 7103 of Sunderland Forge. 250 revolutions.
Engine: one cylinder working from 85 lbs to 185 lbs.
 Capacity of Dynamo *140* Amperes at *110* Volts, whether continuous or alternating current *Continuous*.
 Where is Dynamo fixed *in Engine Space*
 Position of Main Switch Board *Engine space* having switches to groups *five* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *one auxiliary switch board in Chart Room for masts and side lights.*
 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 *cent* 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 *159 lamps* arranged in the following groups:—

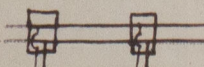
A Bridge accomm.	<i>16</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>42.56</i>	Amperes
B Aft	<i>15</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>8.4</i>	Amperes
C Cargo	<i>25</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>14. -</i>	Amperes
D Engine	<i>34</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>19. -</i>	Amperes
E Poop	<i>1</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>.56</i>	Amperes
<i>2</i> Mast head light with	<i>2</i> lamps each of	<i>16</i>	candle power requiring a total current of	<i>2.24</i>	Amperes
<i>2</i> Side light with	<i>2</i> lamps each of	<i>16</i>	candle power requiring a total current of	<i>2.24</i>	Amperes
<i>(Same as C)</i> <i>25</i> Cargo lights of		<i>16</i>	candle power, whether incandescent or arc lights	<i>incandescent</i>	

If arc lights, what protection is provided against fire, sparks, &c. *No arc lights permanently fitted. But*
Dynamo of sufficient power to feed an Arc Light (about 40 Amperes) which is supplied with the necessary Rheostat by the Suez Company to pass the Channel (Cargo lights not working)
 Where are the switches controlling the masthead and side lights placed *In chart house.*

DESCRIPTION OF CABLES.

Main cable carrying	<i>115</i> Amperes, comprised of	<i>37</i> wires, each	<i>16</i> L.S.G. diameter, <i>0.119</i> square inches total sectional area
Branch cables carrying	<i>40</i> Amperes, comprised of	<i>19</i> wires, each	<i>17</i> L.S.G. diameter, <i>0.046</i> square inches total sectional area
Branch cables carrying	<i>8.4</i> Amperes, comprised of	<i>7</i> wires, each	<i>16</i> L.S.G. diameter, <i>0.022</i> square inches total sectional area
<i>Main cable</i> Leads to lamps carrying	<i>42.5</i> Amperes, comprised of	<i>19</i> wires, each	<i>17</i> L.S.G. diameter, <i>0.046</i> square inches total sectional area
<i>Branch</i> Cargo light cables carrying	<i>10</i> Amperes, comprised of	<i>7</i> wires, each	<i>17</i> L.S.G. diameter, <i>0.017</i> square inches total sectional area
	<i>2</i>	<i>1</i>	<i>16</i> L.S.G. diameter, <i>0.003</i> square inches total sectional area

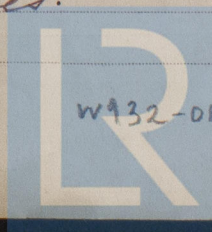
DESCRIPTION OF INSULATION, PROTECTION, ETC.

As per Letter E 1st Nov 1907. Each Light, 16 candle power is supplied by a wire 20 L.S.G. from the circuit. Joints made in paraffin junction boxes. The Insulation and
 *Protection of the installation is very good and as per Rules.*
 Joints in cables, how made, insulated, and protected *All joints in cables are in watertight boxes.*
No soldered joints used.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *not used*. 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 *led through iron tubes.*



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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 tubes*

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

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

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

How are cables carried through beams *Armoured cables or iron tubes through bulkheads, &c. Watertight brass junctions*

How are cables carried through decks *Iron 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* *Except in shelter deck where protected by iron tubes*

If so, how are they protected *The 25 cargo lights are fitted with their junction boxes on shelter deck fore and aft from which flexible wire may be sent to holds when necessary in port.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coats, or baggage *no*

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 *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *connections on shelter deck from fore and aft circuits*

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 *yes* supplied with a voltmeter and *yes* an amperemeter, fixed *on main switch 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 *445* 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.

H. Brice

Electrical Engineers

Date *9th January 1908*

COMPASSES.

Distance between dynamo or electric motors and standard compass *about one hundred feet*

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

The nearest cables to the compasses are as follows:—

A cable carrying	<i>0.5</i>	Amperes	<i>Four</i>	feet from standard compass	<i>Eight</i>	feet from steering compass
A cable carrying	<i>5</i>	Amperes	<i>Ten</i>	feet from standard compass	<i>Twelve</i>	feet from steering compass
A cable carrying	<i>✓</i>	Amperes	<i>✓</i>	feet from standard compass	<i>✓</i>	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 *inferior to one* degrees on *ordinary* course in the case of the standard compass and *null* degrees on *ordinary* course in the case of the steering compass.

H. Brice

Builder's Signature.

Date *9th January 1908*

GENERAL REMARKS.

This installation is properly fitted and worthy to obtain for the S.S. Colver the notation Electric Light inserted in the Register Book

W. J. Boye *H. Carting*
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

It is submitted that the Record Elec. Light be noted in the Reg. Book.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.