

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 884

Port of Newport News Date of First Survey 6.3.16 Date of Last Survey 17.3.16 No. of Visits 6  
 No. in Reg. Book on the Iron or Steel SS "CHARLES RATT" Port belonging to Bryant & Y. N. J.  
 Built at Newport News Va By whom Mrs S & T Co When built 1913  
 Owners Standard Oil Co of N. J. Owners' Address New York  
 Yard No. 186 Electric Light Installation fitted by Mrs S & T Co When fitted 1916

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

"General Electric" Co's Vertical 9 1/2" Engine direct Connected to 20 kW.  
 dynamo - two complete sets -  
 Capacity of Dynamos 182 (EACH) Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine Room, aft Whether single or double wire system is used Double  
 Position of Main Switch Board near Dynamos, having switches to groups of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each QUARTERS IN BRIDGE AND QUARTERS AFT - 6 SWITCHES -

If fuses are fitted on main switch board to the cables of main circuit Y/N and on each auxiliary switch board to the cables of auxiliary circuits Y/N and at each position where a cable is branched or reduced in size Y/N and to each lamp circuit Y/N  
 If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Y/N  
 Are the fuses of non-oxidizable metal Y/N and constructed to fuse at an excess of 100 per cent over the normal current  
 Are all fuses fitted in easily accessible positions Y/N Are the fuses of standard dimensions Y/N 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 Standard  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Y/N

Total number of lights provided for 258 arranged in the following groups: -

A	<u>25</u> lights each of	<u>16</u> candle power requiring a total current of	<u>12.5</u> Amperes
B	<u>21</u> lights each of	" " candle power requiring a total current of	<u>14.5</u> Amperes
C	<u>12</u> lights each of	" " candle power requiring a total current of	<u>10.5</u> Amperes
D	<u>32</u> lights each of	" " candle power requiring a total current of	<u>11.0</u> Amperes
E	<u>20</u> lights each of	" " candle power requiring a total current of	<u>6.0</u> Amperes
	<u>10</u> lights each of	" " candle power requiring a total current of	<u>28.5</u> Amperes
	<u>20</u> lights each of	" " candle power requiring a total current of	<u>16.0</u> Amperes
	<u>10</u> lights each of	" " candle power requiring a total current of	<u>10.0</u> Amperes
	<u>20</u> lights each of	" " candle power requiring a total current of	<u>20.0</u> Amperes
	<u>1</u> Mast head light with <u>2</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>2</u> Amperes
	<u>2</u> Side light with <u>2</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>4</u> Amperes
	<u>3</u> Cargo lights of <u>4</u> <u>7</u> <u>16</u>	candle power, whether incandescent or arc lights	<u>INCANDESCENT</u>

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

Where are the switches controlling the masthead and side lights placed PILOT HOUSE.

## DESCRIPTION OF CABLES.

Main cable carrying	<u>180</u> Amperes, comprised of	<u>37</u> wires, each	<u>13</u> S.W.G. diameter,	<u>.250</u> square inches total sectional area
Branch cables carrying	<u>30</u> Amperes, comprised of	<u>7</u> wires, each	<u>14</u> S.W.G. diameter,	<u>.035</u> square inches total sectional area
Branch cables carrying	<u>20</u> Amperes, comprised of	<u>12</u> wires, each	<u>17</u> S.W.G. diameter,	<u>.046</u> square inches total sectional area
Branch cables carrying	<u>11</u> Amperes, comprised of	<u>7</u> wires, each	<u>14</u> S.W.G. diameter,	<u>.035</u> square inches total sectional area
Branch cables carrying	<u>29</u> Amperes, comprised of	<u>7</u> wires, each	<u>17</u> S.W.G. diameter,	<u>.017</u> square inches total sectional area
Leads to lamps carrying	<u>23</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> S.W.G. diameter,	<u>.022</u> square inches total sectional area
Leads to lamps carrying	<u>12</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> S.W.G. diameter,	<u>.0032</u> square inches total sectional area
Cargo light cables carrying	<u>2</u> Amperes, comprised of	<u>1</u> wires, each	<u>16</u> S.W.G. diameter,	<u>.0032</u> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber, insulating tape, braid; in iron conduit, W.T. iron boxes, Steam tight globes, iron Cables in machinery spaces, Cargo and deck spaces.  
 Joints in cables, how made, insulated, and protected Soldered, Rubber, tape, in W.T. iron boxes -

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Y/N 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 Y/N

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 Conduit - Flexible Conduit - and wood moulding in bridge quarters



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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 Conduit

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

What special protection has been provided for the cables near boiler casings Iron Conduit

What special protection has been provided for the cables in engine room Iron Conduit

How are cables carried through beams Iron Conduit through bulkheads, &c. Iron Conduit

How are cables carried through decks Iron Conduit and W.T. 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 Iron Conduit

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

If so, how are the lamp fittings and cable terminals specially protected S.T. Globes. Iron Cages. W.T. Iron boxes

Where are the main switches and fuses for these lights fitted Main Switch board in Engine Room

If in the spaces, how are they specially protected ✓

Are any switches or fuses fitted in bunkers no

Cargo light cables, whether portable or permanently fixed Portable How fixed ✓

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 ✓

Is the installation supplied with a voltmeter Yes: Two, and with an amperemeter Yes, fixed MAIN SWITCHBOARD

**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas Yes

Are any switches, fuses, 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 S.T. Globes; Iron Cages

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

By W.M. Bussell Electrical Engineers Date Jan-21-1916  
President

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 350 ft

Distance between dynamo or electric motors and steering compass 345 ft

The nearest cables to the compasses are as follows:—

A cable carrying	$\frac{1}{2}$ Amperes	4 feet from standard compass	4 feet from steering compass
A cable carrying	$1\frac{1}{2}$ Amperes	12 feet from standard compass	15 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 ✓

The maximum deviation due to electric currents, etc., was found to be ✓ degrees on ✓ course in the case of the standard compass and ✓ degrees on ✓ course in the case of the steering compass.

By W.M. Bussell Builder's Signature. Date Jan-21-1916  
President

**GENERAL REMARKS.** The installation has been fitted under special survey; the workmanship and protection all good. The vessel is eligible, in my opinion, to have the record "Electric Light" in the Register Book.

W.D. GARR Surveyor to Lloyd's Register of British and Foreign Shipping.  
6/4/16

Committee's Minute FRI. 20 OCT. 1916

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Im. 11, 13. - Transfer.