

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 439.

Port of Jacksonville, Fla. Date of First Survey 7 June 1921 Date of Last Survey 13th Jan 22 No. of Visits 23
 No. in Reg. Book 11010 on the ~~hull~~ Steel Screw Steamer "BYRON D. BENSON" Port belonging to New York
 Built at Tampa, Fla. By whom Oscar Daniel Co. When built 1922-1
 Owners Tidewater Oil Co. Owners' Address _____
 Yard No. 12 Electric Light Installation fitted by Oscar Daniel Co. When fitted 1922

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two General Electric 20 K.W. 400 R.P.M. 125 volt compound wound 100 lb. steam single cylinder vertical engine. One 10 K.W. Emergency Generator Shubert & Co. Boston, Mass.

Capacity of Dynamo 1-10 K.W. Amperes at 125 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed main deck level aft end of engine room Whether single or double wire system is used double

Position of Main Switch Board along side generator having switches to groups A.A'B.C.D.E.F.G. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Masthead House 8 switches 8 cabinets. A. Engine Room, A' Upper Eng Room, B. B. Quarters aft; C. Quarters forward; D. Cargo hold; E. Fore peak; F. Tween Decks.

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 25 per cent over the normal current

Are all fuses 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 not used

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 474 arranged in the following groups:—

A'	<u>53</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>29</u>	Amperes
A	<u>53</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>39</u>	Amperes
B	<u>107</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>35</u>	Amperes
C	<u>97</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>10</u>	Amperes
D	<u>27</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>5.5</u>	Amperes
E	<u>15</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>5.0</u>	Amperes
2	<u>14</u>	Mast head light with lamps each of	<u>16</u>	candle power requiring a total current of	<u>1</u>	Amperes
2		Side light with lamps each of	<u>16</u>	candle power requiring a total current of	<u>1</u>	Amperes

4 clusters Cargo lights of 130 each candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. ✓ 146

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

DESCRIPTION OF CABLES.

Main cable carrying 190 Amperes, comprised of 19 wires, each 107 mil S.W.G. diameter, 217500 square inches total sectional area
 Branch cables carrying 95 Amperes, comprised of 19 wires, each 91 " S.W.G. diameter, 157300 square inches total sectional area
 Branch cables carrying _____ Amperes, comprised of _____ wires, each _____ S.W.G. diameter, _____ square inches total sectional area
 Leads to lamps carrying 6 Amperes, comprised of 1 wires, each 64.1 " S.W.G. diameter, 41070 square inches total sectional area
 Cargo light cables carrying 15 Amperes, comprised of 7 wires, each 51 " S.W.G. diameter, 18080 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Metallic standard electric conduits

Joints in cables, how made, insulated, and protected approved connecting block

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

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 metal conduits



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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 *metal conduits.*

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

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

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

How are cables carried through beams *brass conduit & stuffing box* through bulkheads, &c. *brass conduits & stuffing boxes*

How are cables carried through decks *brass conduits & stuffing boxes*

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

If so, how are they protected *conduits*

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

If so, how are the lamp fittings and cable terminals specially protected *vapor proof globe & outer guard.*

Where are the main switches and fuses for these lights fitted *one peak flat.*

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 *vapor proof attachment plugs.*

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.* 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 *vapor proof globe with outer guard.*

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 *200* 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.

Oscar Daniels & Co by R.B. Allen Supt. Electrical Engineers Date *13th January 1922*

COMPASSES.

Distance between dynamo or electric motors and standard compass *310'-0*

Distance between dynamo or electric motors and steering compass *50'-0*

The nearest cables to the compasses are as follows:—

A cable carrying	Ampers	feet from standard compass	feet from steering compass
<i>19</i>	<i>71'-6</i>	<i>71'-6</i>	
<i>19</i>	<i>18'-6</i>	<i>18'-6</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.

Oscar Daniels & Co by R.B. Allen Supt. Builder's Signature. Date *13th January 1922*

GENERAL REMARKS. *This vessel has been fitted with an electric lighting installation as above & the workmanship is good. On completion it was tried under full working conditions & found satisfactory.*

It is submitted that this vessel is eligible for THE RECORD. Elec. Light. Paul J. 17/2/22. Hugh Boyle.

\$275⁰⁰ 2/6/22 G/H

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

New York JAN 31 1922

Elect. Light



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