

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 19830

Port of New York Date of First Survey 8 Dec Date of Last Survey 30 Dec No. of Visits 6  
 No. in Reg. Book on the Steel Screw Steamer AQUIDABAN Port belonging to Ascension, Paraguay  
 Built at Elizabethport, New Jersey By whom Bethlehem Ship Bldg Co When built 1920  
 Owner International Products Steamship Co Owners' Address 120 Broadway, New York  
 Yard No. 2154 Electric Light Installation fitted by Bethlehem Ship Building Co When fitted 1920

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Single Vertical Enclosed engine direct connected to 7 1/2 K.W. generator. 4 pole. 115 volt. 68 amperes at 500 R.P.M.

Capacity of Dynamo 68 Amperes at 115 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed On flat, after end of engine room Whether single or double wire system is used double

Position of Main Switch Board Close to dynamo having switches to groups of 168 lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each #1 Engine room. 4 circuits 42 lights.

#2 Quarters aft. 2 circuits 18 lights. #3 Quarters amidships 8 circuits 88 lights.

#4 Quarters forward. 4 circuits 19 lights

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 50% 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 No wire fuses.

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

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

Group	Number of lights	Watts	ampere power requiring a total current of	Amperes
A #1	43	25	17	Amperes
B #2	18	25	8.1	Amperes
C #3	88	25 + 100	40.8	Amperes
D #4	19	25	10	Amperes
E				Amperes
2 Mast head lights with 2 lamps each of 60			6.4	Amperes
2 Side lights with 1 lamps each of 60			3.2	Amperes
10 Cargo lights of 3600				Incandescent

If arc lights, what protection is provided against fire, sparks, &c. No arc lights

Searchlight put on board.

Where are the switches controlling the masthead and side lights placed In pilot house.

**DESCRIPTION OF CABLES.**

Description	Amperes	Wires	Each	S.W.G. diameter	Area
Main cable carrying <u>110</u> Amperes, comprised of <u>37</u> wires, each <u>16</u> S.W.G. diameter, <u>96237</u> square inches total sectional area					
Branch cables carrying <u>40</u> Amperes, comprised of <u>7</u> wires, each <u>10</u> S.W.G. diameter, <u>66370</u> square inches total sectional area					
Branch cables carrying <u>10</u> Amperes, comprised of <u>7</u> wires, each <u>14</u> S.W.G. diameter, <u>10510</u> square inches total sectional area					
Leads to lamps carrying <u>3</u> Amperes, comprised of <u>7</u> wires, each <u>22</u> S.W.G. diameter, <u>4000</u> square inches total sectional area					
Cargo light cables carrying <u>31</u> Amperes, comprised of <u>7</u> wires, each <u>10</u> S.W.G. diameter, <u>66370</u> square inches total sectional area					

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

All cables are rubber covered. double braided, jute filled. 40% para. navy standard wire, enclosed in iron conduits.

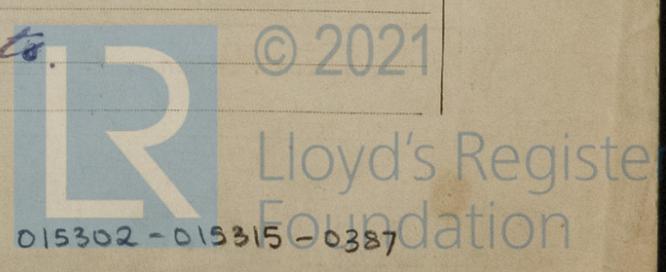
Joints in cables, how made, insulated, and protected, Spliced, Soldered, insulated with rubber elasticaps & friction tape, enclosed in junction boxes.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 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 In iron conduits.



**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 conduits*

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

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

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

How are cables carried through beams *Iron conduits* through bulkheads, &c. *Iron conduits, W.T.* ✓

How are cables carried through decks *Iron conduits* ✓

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 ✓

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 ✓

Where are the main switches and fuses for these lights fitted ✓

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 *Plug Boxes*

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 *Engine Room*

**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 ✓

Are any switches, fuses, 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 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.

*Arthur L. du Pree, Shepard Hanagan, Bethlehem Shipbuilding Corp.* Electrical Engineers

Date *Dec 30-1920*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *100 feet*

Distance between dynamo or electric motors and steering compass *100 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *3* Amperes *10* feet from standard compass *10* feet from steering compass

A cable carrying ✓ Amperes ✓ feet from standard compass ✓ 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 *Not yet adjusted.*

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.

*Arthur L. du Pree, Shepard Hanagan, Bethlehem Shipbuilding Corp.* Builder's Signature.

Date *Dec 30. 1920.*

**GENERAL REMARKS.**

*The above installation has been fitted on board the vessel in a satisfactory manner. The materials and workmanship, so far as can be seen are sound and good and proved satisfactory under test.*

*It is submitted that this vessel is eligible for THE RECORD. Elec. Light. Dec. 31/21.*

*J. Flockhart,*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *Dec. Light*

New York FEB -1 1921



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2m.11.10.—Transfer.