

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7301

Port of *New York* Date of First Survey *2<sup>nd</sup> July* Date of Last Survey *14<sup>th</sup> July* No. of Visits *4*  
 No. in Reg. Book *818* on the *Iron or Steel* *S.S. "SENECA"* Port belonging to *London*  
 Built at *Glasgow* By whom *Russell & Co* When built *1901*  
 Owners *Anglo American oil Co* Owners' Address  
 Yard No. *226* Electric Light Installation fitted by *Jos Bane New York U.S.A.* When fitted *1908*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*General Electric Co's direct coupled marine type generating set*  
*Single cylinder engine 5" cylinder - 4 1/2" stroke 550 Rev. per minute*  
 Capacity of Dynamo *61* Amperes at *115* Volts, whether continuous or alternating current *continuous*  
 Where is Dynamo fixed *Lower Engine room platform Starboard side*  
 Position of Main Switch Board *Lower Engine room Bulkhead having switches to groups for the control of lights, &c., as below*  
 Positions of auxiliary switch boards and numbers of switches on each *A. Located in forecabin 4 switches. B. Located in Pantry forward mess house with 4 switches. C. Located in mess room after mess house with 4 switches. D. Switches on main board control balance of 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 *100* 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 *115* arranged in the following groups:—  
 A *23* lights each of *16* candle power requiring a total current of *11 1/2* Amperes  
 B *22* lights each of *4 - 16 - 32* candle power requiring a total current of *12 1/2* Amperes  
 C *15* lights each of *16* candle power requiring a total current of *7 1/2* Amperes  
 D *3* lights each of candle power requiring a total current of Amperes  
 E *3* lights each of candle power requiring a total current of Amperes  
*2* Mast head light with *2* lamps each of *32* candle power requiring a total current of *2* Amperes  
*2* Side light with *2* lamps each of *32* candle power requiring a total current of *2* Amperes  
*16* Cargo lights of *4 - 16 cp lamp each* 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 room*

## DESCRIPTION OF CABLES.

Main cable carrying *61* Amperes, comprised of *19* wires, each *15* L.S.G. diameter, *0.0755* square inches total sectional area  
 Branch cables carrying *13 1/2* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *0.0225* square inches total sectional area  
 Branch cables carrying *7 1/2* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, *0.0137* square inches total sectional area  
 Leads to lamps carrying *1/2 - 4* Amperes, comprised of *7* wires, each *19* L.S.G. diameter, *0.0088* square inches total sectional area  
 Cargo light cables carrying *2* Amperes, comprised of *30* wires, each *30* L.S.G. diameter, *0.0034* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*All wires are insulated with India rubber and protected with two (2) Braids of watertight fibre*  
 Joints in cables, how made, insulated, and protected *Joints are spliced and soldered, insulated with rubber tape, protected with adhesive tape enclosed in a heavy cast iron box*  
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux *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 enamelled steel 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 installed in steel tubes made watertight with watertight outlet boxes and fixtures

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat installed in steel tubes

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

in steel tubes

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

in steel tubes

How are cables carried through beams

in steel tubes through bulkheads, &c. in steel tubes

How are cables carried through decks

in steel tubes made watertight

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected

in steel tubes

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 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 stokers from How fixed outlets on outside of deck

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

supplied with a voltmeter and one (1)

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 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass

100 feet

Distance between dynamo or electric motors and steering compass

100 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
14	0'	3'	3'
6 1/2	6'	6'	6'
16	30'	24'	24'

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.

Builder's Signature. Date

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules of the Society, in my opinion the vessel is eligible for record "Fitted with Electric Light" 8.07

JUL 23 1908

Fee \$25.00

J. M. Buchanan.

It is submitted that this vessel is eligible for the record "Electric Light" 8.07/10 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.