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## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4264

13. of Newport News, Va. Date of First Survey 28<sup>th</sup> Sept Date of Last Survey 12<sup>th</sup> Oct. 27 No. of Visits 8  
 on the Iron or Steel S/S "CERRO GARDO" Port belonging to San Francisco.  
 Built at Duluth, Min. By whom M'Dougall Duluth Co. When built 1919  
Hammond Lumber Co. Owners' Address 260-California St. When fitted 1919  
 No. 1330 Electric Light Installation fitted by \_\_\_\_\_

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

A 6" pole Dynamo direct connected to reciprocating engines at 450 revolutions per minute.

Capacity of Dynamo 91 ✓ Amperes at 110 ✓ Volts, whether continuous or alternating current continuous. ✓  
 Where is Dynamo fixed engine room Whether single or double wire system is used double ✓  
 Location of Main Switch Board Engine room having switches to groups \_\_\_\_\_ of lights, &c., as below  
 Locations of auxiliary switch boards and numbers of switches on each Two on bridge deck, one in poop spaces 5 ✓  
 its each.

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 \_\_\_\_\_ and at each position where a cable is branched or reduced in size Yes ✓ and to each lamp circuit No.  
 Where is the dynamo 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 there permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes.  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes.

Total number of lights provided for 132 arranged in the following groups:—  

| Location               | Number of lights | Watts each | Candle power | Amperes |
|------------------------|------------------|------------|--------------|---------|
| Forecastle spaces      | 12               | 25         | 2.8          | 2.8     |
| Midship                | 47               | 25         | 10.7         | 10.7    |
| Poop                   | 20               | 25         | 4.6          | 4.6     |
| Machinery              | 33               | 40         | 12.0         | 12.0    |
| Cargo light            | 16               | 60         | 9.0          | 9.0     |
| 2 Mast head light with | 1                | 120        | 2.2          | 2.2     |
| 2 Side light with      | 1                | 120        | 2.2          | 2.2     |

 Above Cargo lights of as stated candle power, whether incandescent or arc lights incandescent  
 Are arc lights, what protection is provided against fire, sparks, &c. None used for cargo. Wireless installation  
 Are all lights fitted on independent circuits.

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

## DESCRIPTION OF CABLES.

| Description                 | Capacity | Amperes | Wires | Length | G. diameter | Square inches total sectional area |
|-----------------------------|----------|---------|-------|--------|-------------|------------------------------------|
| Main cable carrying         | 107      | 19      | 15    | 15 f   | 83690       | 61731                              |
| Branch cables carrying      | 65       | 7       | 14    | 14     | 26250       | 28672                              |
| Branch cables carrying      | 32       | 7       | 18    | 18     | 10380       | 11200                              |
| Cables to lamps carrying    | 16       | 1       | 14    | 14     | 4107        | 4096                               |
| Cargo light cables carrying | 13       | 37      | 30    | 30     | 37158       | 3700                               |

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

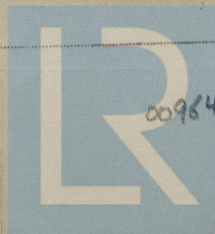
Vulcanized rubber double braided to specification and tests of National Board of Fire Underwriters.

How are the joints in cables, how made, insulated, and protected Soldered, rubbered and taped.

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 Steel conduits were exposed, wood moulding in  
cabins.



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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 Steel conduits.

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

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

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

How are cables carried through beams Steel conduits. through bulkheads, &c. W.T. fittings.

How are cables carried through decks W.T. fittings.

Bridge space. 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 Steel conduits through or clipped to deck beams and safe from damage.

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.

Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass about 50 feet.

Distance between dynamo or electric motors and steering compass ditto

The nearest cables to the compasses are as follows:—

| Cable carrying | Amperes   | feet from standard compass | feet from steering compass |
|----------------|-----------|----------------------------|----------------------------|
| <u>.25</u>     | <u>.5</u> | <u>.5</u>                  |                            |
| <u>✓</u>       | <u>✓</u>  | <u>✓</u>                   |                            |
| <u>✓</u>       | <u>✓</u>  | <u>✓</u>                   |                            |

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.

Builder's Signature. Date

GENERAL REMARKS.

installation  
This electric lighting has been fitted in a satisfactory manner and has been tested out and found efficient. It appears to be in accordance with the Committee's requirements, and I am of the opinion that the Notation of "Electric light" should appear in the Register Book in the case of this vessel.

It is submitted that  
this vessel is eligible for  
THE RECORD. Elec light

A.G. House  
Surveyor to Lloyd's Register of Shipping.

NEW YORK OCT 19 1927

Committee's Minute

Elec. light

FRI. 20 JAN 1928

FRI. 11 MAY 1928



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.