

August 16, 1917

# REPORT ON ELECTRIC LIGHTING INSTALLATION, No. 2543

Port of SAN FRANCISCO Date of First Survey April 4th, Date of Last Survey Jul. 24, 1917 No. of Visits Five.

No. in on the ~~INDEX~~ Steel S. S. "DICTO" Hull #17 Port belonging to Haugesund, Norway.

Reg. Book Built at Alameda, California By whom Union Iron Works Co. When built 1917

Owners B. Stolt-Nielsen Owners' Address Haugesund, Norway.

Yard No. 17 Electric Light Installation fitted by Union Iron Works Co. When fitted 1917

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-Sturtevant Generator direct connected to Terry Steam Turbine.

Capacity of Dynamo 80 ✓ Amperes at 125 ✓ Volts, whether continuous or alternating current Continuous ✓

Where is Dynamo fixed Engine Room Whether single or double wire system is used Double ✓

Position of Main Switch Board Near dynamo having switches to groups 4 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each A. Upper Engine Room (8 switches); B. Forecastle

C. Aft. House. D. Engine and Fireroom.

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-oxidisable metal Yes and constructed to fuse at an excess of 10% 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

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

Total number of lights provided for 104 arranged in the following groups:—

A 56 lights each of 25 candle power requiring a total current of 14 Amperes

B 10 lights each of 25 candle power requiring a total current of 2½ Amperes

C 8 lights each of 25 candle power requiring a total current of 2 Amperes

D 30 lights each of 25 candle power requiring a total current of 7½ Amperes

E - lights each of - candle power requiring a total current of - Amperes

1 Mast head light with 1 lamps each of 25 candle power requiring a total current of ½ Amperes

2 Side light with 1 lamps each of 25 candle power requiring a total current of ½ Amperes

- Cargo lights of - candle power, whether incandescent or arc lights -

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 80 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area

Branch cables carrying 14 Amperes, comprised of 7 wires, each - S.W.G. diameter, .017 square inches total sectional area

Branch cables carrying 7½ Amperes, comprised of 7 wires, each - S.W.G. diameter, .017 square inches total sectional area

Leads to lamps carrying ½ Amperes, comprised of 1 wires, each 15 S.W.G. diameter, .0041 square inches total sectional area

Cargo light cables carrying - Amperes, comprised of - wires, each - S.W.G. diameter, - square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

30% Para Rubber covered double braid.

Joints in cables, how made, insulated, and protected All joints soldered - rubber and friction taped and painted with P. B. Paint.

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 All cables in conduit.



**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 Conduit.

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

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

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

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

How are cables carried through decks Conduit.

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

If so, how are they protected Conduit.

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 Cast iron boxes and brass guards.

Where are the main switches and fuses for these lights fitted Main switchboard.

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 - 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, and with an amperemeter Yes, fixed 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 -

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.

UNION IRON WORKS COMPANY,

By S. J. Ames Electrical Engineers

Date August 11, 1917.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 75 feet.

Distance between dynamo or electric motors and steering compass 75 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 1 Amperes 1 feet from standard compass 1 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 Yes.

The maximum deviation due to electric currents, etc., was found to be Nil. degrees on all courses in the case of the

standard compass and Nil. degrees on each course in the case of the steering compass.

UNION IRON WORKS COMPANY,

By S. J. Ames Builder's Signature.

Date August 11th, 1917.

**GENERAL REMARKS.** This installation has been fitted in accordance with the Rules, tested under running conditions and found in order, and the vessel is eligible in our opinion to have notation of Electric Light in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. JWD 13/9/17  
Elec. Light

J. Blackett + S. Patcher  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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