

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Galveston, Texas. Date of First Survey Feb-27th-19 Date of Last Survey June-27th-19 No. of Visits 1
No. in 1 on the Wood Screw Steamer "NATENNA" Port belonging to Orange, Texas.
Reg. Book Built at Orange & Galveston By whom National Shipbuilding Co. When built 1919
Owners Emergency Fleet Corporation Owners' Address Philadelphia, Pa.
Card No. "19" Electric Light Installation fitted by Lund & Miller When fitted 1919.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engbergs engine, direct connected to 10 K.W. Western Electric Generator.

Capacity of Dynamo 80 Amperes at 110 Volts, whether continuous or alternating current Continuous
Where is Dynamo fixed On platform above main engine Whether single or double wire system is used Double Wired System
Position of Main Switch Board On bulkhead by dynamo having switches to groups of lights, &c., as below
Positions of auxiliary switch boards and numbers of switches on each One at top of engine room having eight switches and one
in chart room having six switches.

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 YesAre the fuses of non-oxidizable 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 Yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases YesTotal number of lights provided for 125 lights arranged in the following groups:—

A	Engine Room	lights each of	36	candle power requiring a total current of	9	Amperes
B	Engine Room	lights each of	36	candle power requiring a total current of	9	Amperes
C	Panel Box	lights each of	16	candle power requiring a total current of	15	Amperes
D	Panel Box	lights each of	16	candle power requiring a total current of	10	Amperes
E		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
12	Cargo lights of		80	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. It is encased in a metal casingWhere are the switches controlling the masthead and side lights placed In wheel house.

DESCRIPTION OF CABLES.

Main cable carrying	80	Amperes, comprised of	2	wires, each	289 mills S.W.G. diameter,	83.694	cir. mills square inches total sectional area
Branch cables carrying	24	Amperes, comprised of	2	wires, each	128 mills S.W.G. diameter,	16.509	cir. mills square inches total sectional area
Branch cables carrying	40	Amperes, comprised of	2	wires, each	162 mills S.W.G. diameter,	26.250	cir. mills square inches total sectional area
Leads to lamps carrying	14	Amperes, comprised of	2	wires, each	130 mills S.W.G. diameter,	16.509	cir. mills 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.

The wire has a rubber cover with two woven layers.

Joints in cables, how made, insulated, and protected Western Union or pig tail joints then soldered, a layer of rubber tape and a layer of friction tape.

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

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 Through steel conduits and wood moulding.

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OF INSULATION, PROTECTION, ETC.—continued.

aces always accessible

Yes

al protection has been provided for the cables in open alleyways or where exposed to weather or moisture They are run through steel

anchors.

ducts.

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

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

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

How are cables carried through beams not any through beams through bulkheads, &c. Steel conduits

How are cables carried through decks Through steel conduits and 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 They are encased in steel conduits.

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 on 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

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed at 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.

John Dragom

Electrical Engineers

Date June 17, 1919

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 ft.

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

The nearest cables to the compasses are as follows:—

A cable carrying	2	Amperes	3	feet from standard compass	1	feet from steering compass
A cable carrying	20	Amperes	3	feet from standard compass	4	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

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

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

National Ship Building Co. of Texas

M. D. D. Shaw

Builder's Signature.

Date June 17, 1919

GENERAL REMARKS.

The dynamo, switchboard and all wiring were installed under inspection and when completed, the dynamo and all lights were tested out on several occasions and found to be very satisfactory.

It is submitted that this vessel is eligible for THE RECORD. ELEC LIGHT

Recd 13/8/19

J. B. Grant Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. Lt.

New York July 2, 1919



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