

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1430

Port of Boston Date of First Survey 2.11.20 Date of Last Survey 20.11.20 No. of Visits 5
 No. in Reg. Book on the Iron or Steel S.S. "REAPER" Port belonging to New York
 Built at Bath, Me. By whom The Texas Steamship Co. When built 1920
 Owners The Texas Co. Owners' Address 17 Battery Place, New York.
 Yard No. 24 Electric Light Installation fitted by The Texas Steamship Co. When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 10 K.W. General Electric generators, direct driven by vertical steam engine.

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.

Position of Main Switch Board Engine room having switches to groups A B L. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 in machine shop with 3; 2 in aft quarters with 6;

1 in aft quarters starboard with 6; 1 in poop with 3; 1 in bridge house with 6;

1 on bridge with 3; 1 in forecabin with 8

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 all but

lamp circuit.

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

Are the fuses of non-oxidisable metal yes and constructed to fuse at an excess of less than 100 per cent over the normal current

Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions enclosed type 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 on fuse cases.

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

Total number of lights provided for 228 arranged in the following groups:—

A Hospital heater lights each of 80 candle power requiring a total current of 18 Amperes

B Pump room 12 lights each of 80 candle power requiring a total current of 10.8 Amperes

C Quarters for 41 lights each of 32 candle power requiring a total current of 19.7 Amperes

D Wireless lights each of 32 candle power requiring a total current of 18 Amperes

E Quarters aft 73 lights each of 32 candle power requiring a total current of 30 Amperes

4 Mast head light with 48 lamps each of 48 candle power requiring a total current of 3.3 Amperes

2 Side light with 48 lamps each of 48 candle power requiring a total current of 3.3 Amperes

9.8 Cargo lights of 320 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 Engine room + pilot house.

DESCRIPTION OF CABLES.

Main cable carrying 91 Amperes, comprised of 19 wires, each .074 S.W.G. diameter, .083 square inches total sectional area

Branch cables carrying 13 Amperes, comprised of 7 wires, each .04 S.W.G. diameter, .014 square inches total sectional area

Branch cables carrying 10.8 Amperes, comprised of 7 wires, each .04 S.W.G. diameter, .014 square inches total sectional area

Leads to lamps carrying 4 Amperes, comprised of 1 wires, each .064 S.W.G. diameter, .003 square inches total sectional area

Cargo light cables carrying 4 Amperes, comprised of 1 wires, each .064 S.W.G. diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Heavy rubber insulation covered with braided waterproof fibre, + carried in steel conduit throughout.

Joints in cables, how made, insulated, and protected Soldered, well taped, and made in metal junction boxes throughout.

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.



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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 conduit made tight

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

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

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

How are cables carried through beams Steel conduit through bulkheads, &c. Steel conduit made tight

How are cables carried through decks Steel conduit, made tight

Are any cables run through coal bunkers Yes or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Steel conduit run high up under deck

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 Vessel burns oil fuel. If compelled to use coal lights & fittings in coal bunkers will be removed

Where are the main switches and fuses for these lights fitted Engine room

If in the spaces, how are they specially protected No

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Permanently fixed How fixed Standards on poop, bridge & forecabin

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 2, fixed on main 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 Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas Heavy airtight glass globes with wire guard

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.

The Texas Steamship Co Electrical Engineers Date 8.12.20
per Geo B Drake Esq

COMPASSES.

Distance between dynamo or electric motors and standard compass about 200 feet.

Distance between dynamo or electric motors and steering compass about 200 feet.

The nearest cables to the compasses are as follows:—

A cable carrying Signal 4 Amperes close to feet from standard compass close to feet from steering compass

A cable carrying Signal light 33 Amperes about 6 feet from standard compass about 6 feet from steering compass

A cable carrying Search light 30 Amperes about 12 feet from standard compass about 12 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 — degrees on — course in the case of the standard compass and — degrees on — course in the case of the steering compass.

The Texas Steamship Co Builder's Signature. Date 8.12.20
per Geo B Drake Esq

GENERAL REMARKS. This electric light installation has been fitted in accordance with the rules, & the workmanship & material are good. It has been satisfactorily tried under full load, and it is now in good & safe working condition & eligible in my opinion to receive the notation "Elec. Light" in the Register Book. This a duplicate of S/S. Harvester Boston Report No 1414

It is submitted that this vessel is eligible for THE RECORD. Elec Lt. Roll 6/12/20
Wm Stewart
Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York DEC 14 1920
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Boston, Mass. Continuation of Report No. 1430 dated 9.12.20 on the

Electric Lighting Installation

Steamer "REAPER" of New York.

Groups of Lights Continued

Lower Engine Room: 8 lights each of 32 Candle power requiring a total current of 6 Amperes

Upper : 25 : 32 : 10

Boiler Room : 42 : 32 : 15.3

Poop : 3 : 32 : 1.2

Description of Cable Continued.

D. & carrying maximum 30 Amps Composed of 7 wires each .064, .0225 sq. inch Sec. area

B.E.F.H.J.K.L. : 30 : 7 : .04 : .014