

REC'D NEW YORK OCT 27 1920

Received at London Office

MON. NOV. 15 1920

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1414

Port of Boston Date of First Survey 19.8.20 Date of Last Survey 6.10.20 No. of Visits 5  
 No. in on the Steel Small steamer "HARVESTER" Port belonging to New York  
 leg. Book Built at Bath, Maine By whom The Texas Steamship Co When built 1920  
 Owners The Texas Co Owners' Address 17 Battery Place, New York City  
 Card No. 23 Electric Light Installation fitted by The Texas Steamship Co When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

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

Capacity of 91 Dynamo 110 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 \_\_\_\_\_ of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 in Masthead Prop with 3; 2 in aft quarters with 6 each in aft quarters starboard with 6; 1 in prop with 3; One in bridge house with 6; One on bridge with 3; One in fore-castle with 3.

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 No 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-oxidizable 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 in closed 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           |            | candle power requiring a total current of        | <u>13</u>           | Amperes |
| B. Pump Room                | <u>12</u> lights each of | <u>80</u>  | candle power requiring a total current of        | <u>10.8</u>         | Amperes |
| C. Quarters Fore            | <u>41</u> lights each of | <u>32</u>  | candle power requiring a total current of        | <u>19.7</u>         | Amperes |
| D. Wireless                 | lights each of           | <u>000</u> | candle power requiring a total current of        | <u>18</u>           | Amperes |
| E. Quarters Aft             | <u>73</u> lights each of |            | candle power requiring a total current of        |                     | Amperes |
| F. { 4 Mast head light with | <u>1</u> lamps each of   | <u>48</u>  | candle power requiring a total current of        | }                   | Amperes |
| { 2 Side light with         | <u>1</u> lamps each of   | <u>48</u>  |  |                     |         |
| G. 8                        | Cargo lights of          | <u>320</u> | candle power, whether incandescent or arc lights | <u>incandescent</u> |         |

If arc lights, what protection is provided against fire, sparks, &c. Yes

Where are the switches controlling the masthead and side lights placed Engine room + pilot house

## DESCRIPTION OF CABLES.

|                             |                                   |                       |                              |  |
|-----------------------------|-----------------------------------|-----------------------|------------------------------|--|
| Main cable carrying         | <u>91</u> Amperes, comprised of   | <u>19</u> wires, each | <u>.074</u> S.W.G. diameter, | <u>.083</u> square inches total sectional area |
| Branch cables carrying      | <u>13</u> Amperes, comprised of   | <u>7</u> wires, each  | <u>.04</u> S.W.G. diameter,  | <u>.014</u> square inches total sectional area |
| Branch cables carrying      | <u>10.8</u> Amperes, comprised of | <u>7</u> wires, each  | <u>.04</u> S.W.G. diameter,  | <u>.014</u> square inches total sectional area |
| Leads to lamps carrying     | <u>4</u> Amperes, comprised of    | <u>1</u> wires, each  | <u>.064</u> S.W.G. diameter, | <u>.003</u> square inches total sectional area |
| Cargo light cables carrying | <u>4</u> Amperes, comprised of    | <u>8</u> wires, each  | <u>.064</u> S.W.G. diameter, | <u>.003</u> square inches total sectional area |

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

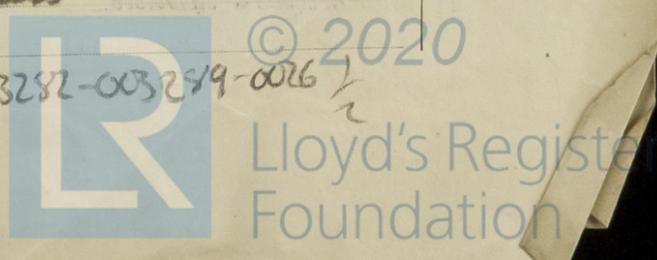
Heavy rubber insulation covered with braided waterproof fibre + carried in steel conduit throughout.

Joints in cables, how made, insulated, and protected Soldered, well taped + 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



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 Conduits run high up under decks*

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 & is 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 *✓*

Are any switches or fuses fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *Permanently fixed* How fixed *Standards on prop. 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 amperometer *Yes with 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

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 *Kept in tight glass globes with wire guards*

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.

COMPASSES.

Electrical Engineers Date

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

Distance between dynamo or electric motors and steering compass *about 200 "*

The nearest cables to the compasses are as follows:—

A cable carrying *Binnacle 4 1/2* 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.

*Geo. R. Oplund* Supt. *The Tea Steamship Co.* Builder's Signature. Date *Oct 22 20*

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 is a duplicate of S/S. Occidental - Boston Report No 1350*

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

*William Stewart*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*Recd 24/11/20*  
*Elec Lt*

New York NOV - 3 1920

Boston, Mass.

Continuation of Report No. 1414 dated 6.10.20

on the

Electric Lighting Installation.

Steamer "HARVESTER" of New York.  
Groups of Lights Continued.

|             |    |                |    |                                   |      |          |
|-------------|----|----------------|----|-----------------------------------|------|----------|
| Lower E.R.  | 8  | lights each of | 32 | c.p. requiring a total current of | 6    | amperes. |
| Upper       | 25 | "              | 32 | "                                 | 10   | "        |
| Antler Room | 42 | "              | 32 | "                                 | 15.3 | "        |
| Prop        | 3  | "              | 32 | "                                 | 1.2  | "        |

Description of Cable Continued.

D. G. carrying maximum 30 amps. Comprised of 7 wires each .064, .022 sq. in total Cu. area

E.F.H.T.R.L. 30 . 7 . .014 . . . . .

W.S.

*Cash*

INSURANCE