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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 Steam steamer "HARVESTER" Port belonging to New York
 Reg. 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 each
 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 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1 in Main Prop with 3; 2 in aft quarter with 6 each
in aft quarter 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 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 13 candle power requiring a total current of 13 Amperes
 B. Pump Room 12 lights each of 80 candle power requiring a total current of 10.8 Amperes
 C. Quarters Forward 41 lights each of 32 candle power requiring a total current of 19.7 Amperes
 D. Wireless lights each of 18 candle power requiring a total current of 18 Amperes
 E. Quarters Aft 73 lights each of 18 candle power requiring a total current of 13.3 Amperes
 F. 4 Mast head light with 1 lamps each of 48 candle power requiring a total current of 3.3 Amperes
2 Side light with 1 lamps each of 48 candle power requiring a total current of 3.3 Amperes
 G. 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 8 wires, each .064 S.W.G. diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

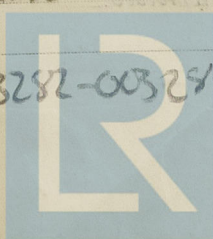
Heavy rubber insulation covered with braided waterproof fibre + carried in steel conduit throughout.

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

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture. *Yes* *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 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.

Are any switches or fuses fitted in bunkers. *No*

Cargo light cables, whether portable or permanently fixed. *Permanently fixed* How fixed. *Standard on prop. bridge & forecastle.*

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 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. *Heavy oil tight glass globe 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 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. Gifford Supt. *The T. S. 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

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

W.S.