

THU. 17 MAR. 1921

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 19964.

Port of New York Date of First Survey Jan. 25/21 Date of Last Survey Feb. 10/21 No. of Visits 7
 No. in Reg. Book 81692 on the Iron or Steel S.S. SAN TEODORO Port belonging to London
 Built at New York By whom Standard S.B. Corp. When built 1921
 Owners Eagle Oil Transport Co Owners' Address London
 Yard No. 28 Electric Light Installation fitted by Standard S.B. Corp When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Sunderland Forge Generating sets 8"x6" steam Engines Each
 driving a 12½ KW. generator (D.C.)

Capacity of Dynamo 250 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed after engine room Whether single or double wire system is used double
 Position of Main Switch Board dynamo room having switches to groups 4 groups of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Upper engine room, poop deck quarters, midship quarters, forecastle.

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

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 25 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 no wire fuses

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

Total number of lights provided for 177 arranged in the following groups:—

Group	No. of lights	Watts each of	Candle power requiring a total current of	Amperes
A	37	16	45.92	Amperes
B	40	16	22.40	Amperes
C	53	16	29.68	Amperes
D	18	16	10.08	Amperes
E				Amperes
2	Mast head light with 2 lamps each of	16	2.24	Amperes
2	Side light with 2 lamps each of	16	2.24	Amperes
4	Cargo lights of	16		Incandescent

If arc lights, what protection is provided against fire, sparks, &c. No arc lights

Where are the switches controlling the masthead and side lights placed Pilot house tell tale

DESCRIPTION OF CABLES.

Description	Amperes	Wires	DIA	B&S	Area
Main cable carrying	161	2x61	.65	S.W.G. diameter,	.398 square inches total sectional area
Branch cables carrying	35.92	7	.052	S.W.G. diameter,	.0148 square inches total sectional area
Branch cables carrying	22.40	19	.040	S.W.G. diameter,	.0237 square inches total sectional area
Leads to lamps carrying	1.12	1	.051	S.W.G. diameter,	.0020 square inches total sectional area
Cargo light cables carrying	13.44	1	.064	S.W.G. diameter,	.0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

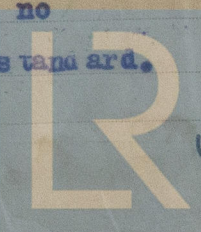
The cables are insulated their entire length with a para rubber compound properly applied and vulcanized. Covered with one woven cotton braid and 5/64" lead sheath after which three more woven cotton braids and basket weave navy standard steel armor.

Joints in cables, how made, insulated, and protected Joints all pigtailed, soldered, rubber and friction taped.
 No joints except in brass or galv. iron junction boxes or fixture blocks.

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 Lead and steel armored navy standard.



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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 **Lead and steel armored**

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **Lead and steel armored**

What special protection has been provided for the cables near boiler casings **Lead and steel armored**

What special protection has been provided for the cables in engine room **Lead and steel armored**

How are cables carried through beams **holes in beams lead sleeved** through bulkheads, &c. **stuffing tubes**

How are cables carried through decks **Kick pipes and stuffing tubes**

Are any cables run through coal bunkers **no** or cargo spaces **yes** or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected **Lead and steel armored.**

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 **Connected to plug boxes**

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel **2 wire throughout**

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** fired **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 **no lamps so placed**

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, **all in accordance with Navy Specification 15 C I D**

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.

Distance between dynamo or electric motors and standard compass **200 ft.**

Distance between dynamo or electric motors and steering compass **220 ft.**

The nearest cables to the compasses are as follows:—

Cable	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying 2.8	6 ft.	12 feet from standard compass	51 feet from steering compass
A cable carrying .56	1 ft.	1 feet from standard compass	30.30 feet from steering compass
A cable carrying			30.30 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 **N11** degrees on **course in the case of the** standard compass and **N11** degrees on **course in the case of the steering compass.**

GENERAL REMARKS.

The installation has been fitted in accordance with U.S. Marine Standard Rules. The workmanship and material are good. In my opinion the vessel is eligible for the notation "Elec. Light."

Fee \$200.

Committee's Minute

Alex Lawrence
Surveyor to Lloyd's Register of Shipping.
New York FEB 23 1921

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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