

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3395

Port of Baltimore Md Date of First Survey 3rd Oct 1922 Date of Last Survey 14th Feb 1923 No. of Visits 12
 No. in 3696 on the Iron or Steel S.S. "J. L. Luckenbach" ex "South Bend" Port belonging to New York
 g. Book 3696 Built at Chester Pa. By whom Sun S. B. Co. When built 1919
 Owners Luckenbach S. S. Co. Inc. Owners' Address New York
 ord No. Electric Light Installation fitted by Bethlehem S. B. Corp. When fitted 1923

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two - 200 K.W. - 3 phase - 60 cycle - generators each with exciter of 125 volts - 44 amp.
 Each generator driven by De Laval Turbine speed 3600.

Capacity of Dynamo each 603 Amperes at 240 Volts, whether continuous or alternating current Alternating

Where is Dynamo fixed Engine Room Maindeck flat. Whether single or double wire system is used Double

Position of Main Switch Board Near Dynamos. having switches to groups 14 pumps etc of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each No auxiliary switch boards to pumps.

The Lighting system is as when vessel was built and is at 110 volts through a transformer.

Are fuses 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 Yes.

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 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 Yes.

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

A Rotary Feed Pump	lights each	candle power requiring a total current of	172	Amperes
B 2 Main Circulating Pumps	lights each	candle power requiring a total current of	146 each.	Amperes
C Auxiliary Circulating Pumps	lights each	candle power requiring a total current of	65.	Amperes
D Forced Draught Blower	lights each	candle power requiring a total current of	146.	Amperes
E 2 Condensate Pumps	lights each	candle power requiring a total current of	23 each	Amperes
3 Ventilator Fans	lights each	candle power requiring a total current of	30 Total	Amperes
3 Side light with lamps each of		candle power requiring a total current of	30 "	Amperes
Ice machine	Cargo lights of	candle power, whether incandescent or are	25	Amperes.

Are arc lights, what protection is provided against fire, sparks, &c. No arc lights. Search light incandescent

Where are the switches controlling the masthead and side lights placed

DESCRIPTION OF CABLES. Main cables from generator to switch board - 2 to each phase.

Main cable carrying 300 Amperes, comprised of	37 wires, each	11 S.W.G. diameter,	.600 square inches total sectional area
Branch cables carrying 146 Amperes, comprised of	17 wires, each	9 S.W.G. diameter,	.2779 square inches total sectional area
Branch cables carrying 65 Amperes, comprised of	7 wires, each	13 S.W.G. diameter,	.050 square inches total sectional area
Cable leads to lamps carrying 172 Amperes, comprised of	37 wires, each	9 S.W.G. diameter,	.350 square inches total sectional area
Cargo light cables carrying 30 Amperes, comprised of	7 wires, each	16 S.W.G. diameter,	.0206 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wiring tri coated, coated with pure rubber, waterproof tape & double braiding. All wiring led through enamel lined conduits.

Joints in cables, how made, insulated, and protected Most cables continuous from switch board to starting box. Joints where necessary in metal junction boxes.

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 In 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 *None exposed*
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *In conduits*
 What special protection has been provided for the cables near boiler casings *In conduits*
 What special protection has been provided for the cables in engine room " "
 How are cables carried through beams ✓ through bulkheads, &c. ✓
 How are cables carried through decks ✓
 Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *no*
 If so, how are they protected ✓
 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 ✓ How fixed ✓
 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 for each generator* with an amperemeter *to each phase*, fixed *main switch board*.

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.

Electrical Engineers Date *28th Feb 1923*

COMPASSES.

Distance between dynamo or electric motors and standard compass
 Distance between dynamo or electric motors and steering compass
 The nearest cables to the compasses are as follows:— *Vessel now fitted with gyroscopic compasses in addition to magnetic.*

A cable carrying <i>35</i> Amperes	<i>9</i> feet from standard compass	<i>9</i> feet from steering compass
A cable carrying <i>1/2</i> Amperes	<i>3</i> feet from standard compass	<i>3</i> 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 *Yes*.
 The maximum deviation due to electric currents, etc., was found to be *nil* degrees on ✓ course in the case of the standard compass and *nil* degrees on ✓ course in the case of the steering compass.

J. H. Stewart Builder's Signature. Date *28th Feb 1923*

GENERAL REMARKS. *The generators are not in parallel, the switch board arranged so that any pump or circuit can be connected to either generator. All switches three pole, protected on each pole by fuses. Each generator protected by circuit breakers & fuses. Generators tried under full load, engines running full open and all found satisfactory.* ✓

It is submitted that this vessel is eligible to remain as CLASSED. *H. A. Stewart* Surveyor to Lloyd's Register of Shipping. *23/3/23*

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



2m.11.19—Transfer.