

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2069

Port of Baltimore Md. Date of First Survey Jan 21st Date of Last Survey March 26th No. of Visits 11
 No. in Reg. Book on the Iron or Steel Iron Steamer "James H. Lee" Port belonging to Bayonne Co. J.
 Built at Sparrows Point By whom Bethlehem Steel Co. When built 1917
 Owners Standard Oil Co. Owners' Address Bayonne N.J.
 Yard No. 158 Electric Light Installation fitted by Bethlehem Steel Co. When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Generating sets - each rated at 20 H.P. Direct coupled to Reciprocating Engines 9"x7" - 1400 R.P.M. Also emergency set rated at 10 H.P.
 Capacity of Dynamo 100 Amperes at 125 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 Near Generator having switches to groups 3 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each A. Upper deck aft 10 circuits - B Pump Room Panel 14 circuits - C. Midship House 8 circuits - D. Emergency Panel 5 circuits - E. Forward Panel 3 circuits - Engine Room 10 circuits

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 Yes
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 30 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 243 arranged in the following groups :-

Group	Number of lights	Each of	Candle power	Requiring a total current of	Amperes
A	58	20		13.19	
B	8	20		1.81	
C	60	20		13.81	
D	83	20		18.87	
E	15	20		3.41	
Two Mast head light with	Two lamps each of	32		64	Amperes
Two Side light with	Two lamps each of	32		64	Amperes
12 Bunkers Cargo lights of	20				Incandescent

If are lights, what protection is provided against fire, sparks, &c. None
 Where are the switches controlling the masthead and side lights placed On Tell tale in Pilot House.

DESCRIPTION OF CABLES.

Main cable carrying	Amperes	Comprised of	Wires, each	S.W.G. diameter	Area	Total sectional area
115		37	11	3/4	.100	.392
62.9		37	11	3/4	.046	.392
25		19	15	15	.0086	.077
32		1	14	100	.0125	.005
128		41	29	117	.003	.006

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wires covered with 3/32" pure gum, insulating tape, jute filler and bound with insulating tape
All wiring except in quarters led through conduits
 Joints in cables, how made, insulated, and protected Soldered, taped with a layer of rubber compound equal to thickness of rubber wall, then taped with rubber impregnated linen tape and the joint painted with shellac.
 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 iron enamel lined pipes



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 *In conduits*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Iron Pipes*

What special protection has been provided for the cables near boiler casings *Iron Pipes*

What special protection has been provided for the cables in engine room *Iron Pipes*

How are cables carried through beams *Iron Pipes* through bulkheads, &c. *Iron Pipes with stuffing boxes*

How are cables carried through decks *In iron pipes with stuffing boxes*

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

If so, how are they protected *In iron pipes*

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 _____

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. for each generator, 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 *Water tight fixtures with metal 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.

BETHLEHEM STEEL COMPANY
MARYLAND SHIPBUILDING PLANT

Wm. S. Henderson Manager Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass *400 feet*

Distance between dynamo or electric motors and steering compass *400 feet*

The nearest cables to the compasses are as follows:—

A cable carrying <i>32</i>	Amperes <i>1</i>	feet from standard compass <i>8</i>	feet from steering compass
A cable carrying <i>✓</i>	Amperes <i>✓</i>	feet from standard compass <i>✓</i>	feet from steering compass
A cable carrying <i>✓</i>	Amperes <i>✓</i>	feet from standard compass <i>✓</i>	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.

BETHLEHEM STEEL COMPANY
MARYLAND SHIPBUILDING PLANT

Wm. S. Henderson Builder's Signature. Date _____

GENERAL REMARKS.

This installation has been fitted in an efficient manner & the workmanship and materials are good and in accordance with the rules of this Society. The generators have been tried under full load and found satisfactory. Side and mast head lights tested.

Geo. Tully & Hill Steward
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

Elec Light

New York APR 12 1917

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

