

NOV. 13 1922

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3235

Port of Baltimore Md Date of First Survey 18th Feb Date of Last Survey 20th Oct 1922 No. of Visits 10
 No. in Reg. Book 59984 on the ~~Iron or~~ Steel S.S. "Fort Mc Henry" Port belonging to Baltimore Md
 Built at Baltimore Md By whom Bethlehem S. B. Corp. When built 1922
 Owners Bethlehem S. B. Corp. Owners' Address Bethlehem Pa.
 Yard No. 125 Electric Light Installation fitted by Bethlehem S. B. Corp. When fitted 1922

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Generating sets consists of two 10 H.P. generators each direct coupled to reciprocating engines.

Capacity of Dynamo 91 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Upper engine room platform Whether single or double wire system is used Double
 Position of Main Switch Board Near Dynamo having switches to groups 8 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Upper Poop - 6, Lower Poop 4, Engine Room - 6, Midship Pentry - 4, Forecastle - 6.

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 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 Yes

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

Total number of lights provided for 246 arranged in the following groups:—

A	<u>42</u>	lights each of	<u>25 watt</u>	candle power requiring a total current of	<u>10</u>	Amperes
B	<u>30</u>	lights each of	"	candle power requiring a total current of	<u>4 1/2</u>	Amperes
C	<u>62</u>	lights each of	"	candle power requiring a total current of	<u>15</u>	Amperes
D	<u>58</u>	lights each of	"	candle power requiring a total current of	<u>14</u>	Amperes
E	<u>25</u>	lights each of	"	candle power requiring a total current of	<u>6 1/4</u>	Amperes
<u>2</u>	Mast head light with	<u>2</u> lamps each of	"	candle power requiring a total current of	<u>2</u>	Amperes
<u>2</u>	Side light with	<u>2</u> lamps each of	"	candle power requiring a total current of	<u>2</u>	Amperes
<u>9</u>	Cargo lights of	<u>100 Watt</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. Search Light only

Where are the switches controlling the masthead and side lights placed on tell tale board in Pilot House.

DESCRIPTION OF CABLES.

Main cable carrying	<u>52</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>.097"</u>	S.W.G. diameter,	<u>.05</u>	square inches total sectional area
Branch cables carrying	<u>10</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>14</u>	S.W.G. diameter,	<u>.035</u>	square inches total sectional area
Branch cables carrying	<u>7 1/2</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>14</u>	S.W.G. diameter,	<u>.035</u>	square inches total sectional area
Leads to lamps carrying	<u>8</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>14</u>	S.W.G. diameter,	<u>.035</u>	square inches total sectional area
Cargo light cables carrying	<u>6</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>14</u>	S.W.G. diameter,	<u>.035</u>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wires covered with layer of pure rubber, layer of vulcanised rubber and layer of vulcanised tape. All wires led through galvanised iron conduits

Joints in cables, how made, insulated, and protected

In junction boxes with metal covers.

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



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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 *In conduits with water tight joints*

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 *" "*

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

How are cables carried through beams *In conduits through bulkheads, &c. " with glands*

How are cables carried through decks *In conduits with watertight glands*

Are any cables run through coal bunkers *✓* or cargo spaces *✓* or spaces which may be used for carrying cargo, stores, or baggage *✓*

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 *4 Fixed & Portable* How fixed *Secured to masts*

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 *for each generator 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 *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 *Special vapor proof globes with 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 SHIPBUILDING CORPORATION, LTD.

BALTIMORE DRY DOCKS PLANT

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *205 ft.*

Distance between dynamo or electric motors and steering compass *207 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>35</i>	<i>12</i>	<i>14</i>	
<i>2</i>	<i>6</i>	<i>9</i>	
<i>✓</i>	<i>✓</i>	<i>✓</i>	

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 SHIPBUILDING CORPORATION

J. H. Stewart

Builder's Signature.

Date

GENERAL REMARKS.

The above installation has been fitted in accordance with the Rules of this Society and the workmanship & materials are good. Dynamos tested singly & in parallel under full load & found satisfactory. Side & mast head lights tested & found satisfactory.

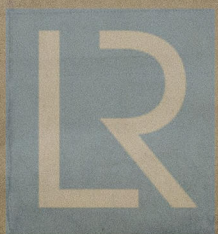
It is submitted that this vessel is eligible for THE RECORD.

Elec. Light. *✓*

H. A. Stewart
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elect Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.