

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3551

Port of GLoucester Date of First Survey Nov 25/18 Date of Last Survey Nov 24/19 No. of Visits 32
 on the Iron or Steel CARGO-ANDREW JACKSON Port belonging to GLoucester
 Book Built at GLoucester By whom PUSEY + JONES CO. When built 1919
 Owners U. S. Shipping Board Owners' Address Gloucester City
 and No. Electric Light Installation fitted by PUSEY + JONES CO. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

125 KVA. - WESTINGHOUSE TURBO-GENERATOR SETS, 240 VOLTS - 3 PHASE
60 CYCLE - DIRECT CONNECTED TO 3 1/2 KW EXCITER
 Capacity of Dynamo 300 Amperes at 240 Volts, whether continuous or alternating current A.C.
 Where is Dynamo fixed ENGINE ROOM BALCONY Whether single or double wire system is used DOUBLE
 Position of Main Switch Board " " " having switches to groups — of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each NO AUX. BOARD

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
 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-oxidisable 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 NONE USED
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases YES
 Total number of lights provided for 158 arranged in the following groups:—

<u>12</u>	lights each of <u>60 WATTS</u>	candle power requiring a total current of <u>6.6</u>	Amperes
<u>110</u>	lights each of <u>40</u> "	candle power requiring a total current of <u>40.0</u>	Amperes
<u>32</u>	lights each of <u>25</u> "	candle power requiring a total current of <u>7.3</u>	Amperes
<u>4</u>	lights each of <u>100</u> "	candle power requiring a total current of <u>3.6</u>	Amperes
	lights each of	candle power requiring a total current of	Amperes
<u>1</u>	Mast head light with <u>2</u> lamps each of <u>60 WATTS</u>	candle power requiring a total current of <u>1.1</u>	Amperes
<u>2</u>	Side light with <u>2</u> lamps each of <u>60</u> "	candle power requiring a total current of <u>1.1</u>	Amperes
<u>9</u>	Cargo lights of <u>3240 WATTS</u>	candle power, whether incandescent or arc lights <u>INCAN.</u>	

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

Where are the switches controlling the masthead and side lights placed MAIN BOARD WITH TELL TALE IN P.H.

DESCRIPTION OF CABLES.

Main cable carrying 300 Amperes, comprised of 3 wires, each #10 B + 5 S.W.G. diameter, .249 square inches total sectional area
 Branch cables carrying 10 Amperes, comprised of 2 wires, each #10 B + 5 S.W.G. diameter, .01634 square inches total sectional area
 Branch cables carrying 16 Amperes, comprised of 2 wires, each #10 B + 5 S.W.G. diameter, .01634 square inches total sectional area
 Leads to lamps carrying 6 Amperes, comprised of 2 wires, each #14 B + 5 S.W.G. diameter, .00642 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 2 wires, each #14 B + 5 S.W.G. diameter, .00642 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

LEADED + ARMORED CABLE

Points in cables, how made, insulated, and protected NO JOINTS MADE IN CABLE

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — 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 —

Are there any joints in or branches from the cable leading from dynamo to main switch board —

How are the cables led through the ship, and how protected CABLES ARE LED THROUGH BEAMS IN
LEAD BUSHINGS AND THROUGH BHD'S + DECKS IN STUFFING TUBES

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

LEADED & ARMORED CABLE

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat LTA CABLE IN PIPE

What special protection has been provided for the cables near boiler casings LTA CABLE IN PIPE

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

How are cables carried through beams LEAD BUSHINGS through bulkheads, &c. STUFFING TUBES

How are cables carried through decks KICK PIPES

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

If so, how are they protected LTA CABLE ENCASED WITH SHEET IRON

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 —

Cargo light cables, whether portable or permanently fixed PORTABLE How fixed SWITCH & RECEPT

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, fixed SW. 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.

J. S. Schlesinger

Electrical Engineers

Date Nov 20-19

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:—

A cable carrying	Ampères	feet from standard compass	feet from steering compass
<u>9</u>	<u>5</u>	<u>4</u>	<u>4</u>
<u>2</u>	<u>5</u>	<u>10</u>	<u>10</u>
<u>1/2</u>	<u>2</u>	<u>2</u>	<u>2</u>

Have the compasses been adjusted with and without the electric installation at work at full power

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.

Joseph S. Stull, Jr. Gen. Supt.
Wm. E. Glavin, Jr. Bldg. Supt.

Builder's Signature.

Date Nov 21, 1919

GENERAL REMARKS.

THERE IS NO MAGNETIC EFFECT ON COMPASS DUE TO THE FACT THAT ALTERNATING CURRENT IS USED. FOR SPECIAL PROTECTION STEEL SHEATH IS REMOVED FROM CABLE WHERE SAME COMES NEAR COMPASSES. The installation has been well fitted and proved satisfactory on trial.

It is satisfactory on trial

THIS VESSEL IS ELIGIBLE FOR THE RECORD

ELEC. LIGHT. 8. 1. 20.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. Lt.