

WED. 4 APR. 1921

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 20087.

Port of New York Date of First Survey 9th Feb Date of Last Survey 17th Feb No. of Visits 6.
 No. in Reg. Book on the Steel Join S.S. WALTER JENNINGS Port belonging to New Jersey
 Built at Kearny, New Jersey By whom Federal Ship Building Co When built 1921
 Owners Standard Oil Co of New Jersey Owners' Address 26 Broadway, New York
 Yard No. 47 Electric Light Installation fitted by Federal Ship Building Co When fitted 1921.

DESCRIPTION OF DYNAMO, ENGINE, ETC. - 2-20 K.W. - 110/125 Volts. multipolar flat compound wound generator
each direct connected to a 9x7 Vertical Steam reciprocating engine, having automatic cut off.
-10 K.W. 115 Volts. multipolar flat compound wound generator, direct connected to 4 cycle 4 cyl. gasoline engine.

Capacity of Dynamos 175 Main Amperes at 115 Volts, whether continuous or alternating current CONTINUOUS.
91 Aux.

Where is Dynamo fixed After Flat Engine Room. Whether single or double wire system is used DOUBLE.

Position of Main Switch Board On dynamo flat having switches to groups 5 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1-Aux switchboard located in emergency generator room in fore-castle. 1 Main distributing panel having 8 switches located on saloon deck. 3 lighting distribution panels, 2 with 12 & 1 with 14 switches.

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 50% 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 370 arranged in the following groups:—

			Watts		
A	<u>134</u>	lights each of <u>50</u>	candle power requiring a total current of <u>61</u>		Amperes
B	<u>42</u>	lights each of <u>50</u>	candle power requiring a total current of <u>19.2</u>		Amperes
C	<u>12</u>	lights each of <u>50</u>	candle power requiring a total current of <u>5.5</u>		Amperes
D	<u>22</u>	lights each of <u>50</u>	candle power requiring a total current of <u>10.0</u>		Amperes
E	<u>13</u>	lights each of <u>50</u>	candle power requiring a total current of <u>5.9</u>		Amperes
	<u>48</u>	lights each of <u>50</u>	candle power requiring a total current of <u>21.8</u>		Amperes
	<u>99</u>	lights each of <u>50</u>	candle power requiring a total current of <u>40.45</u>		Amperes
<u>2</u>	Mast head lights with <u>2</u> lamps each of <u>32</u>		candle power requiring a total current of <u>4</u>		Amperes
<u>2</u>	Side lights with <u>2</u> lamps each of <u>32</u>		candle power requiring a total current of <u>4</u>		Amperes
<u>3</u>	Cargo lights of <u>500 Watts.</u>		candle power, whether incandescent or are lights <u>Incandescent.</u>		

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

Where are the switches controlling the masthead and side lights placed On tell-tale panel in pilot house.

DESCRIPTION OF CABLES.

2 Main cables carrying <u>175</u> Amperes, comprised of <u>2</u> wires, each <u>#4</u>				A.W.G. diameter <u>211.600</u>	<u>Cir Mils</u>		total sectional area
Branch cables carrying <u>61.00</u> Amperes, comprised of <u>2</u> wires, each <u>#2</u>				A.W.G. diameter <u>133.100</u>			total sectional area
Branch cables carrying <u>40.45</u> Amperes, comprised of <u>2</u> wires, each <u>#4</u>				A.W.G. diameter <u>300.000</u>			total sectional area
Branch cables carrying <u>19.2</u> Amperes, comprised of <u>2</u> wires, each <u>#4</u>				A.W.G. diameter <u>41.740</u>			total sectional area
Leads to lamps carrying <u>10.00</u> Amperes, comprised of <u>2</u> wires, each <u>#4</u>				A.W.G. diameter <u>41.740</u>			total sectional area
Cargo light cables carrying <u>1/2</u> Amperes, comprised of <u>2</u> wires, each <u>#14</u>				A.W.G. diameter <u>4107</u>			total sectional area
Cargo light cables carrying <u>4.55</u> Amperes, comprised of <u>2</u> wires, each <u>#14</u>				A.W.G. diameter <u>4107</u>			total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber covered, double braided wires
pulled in rigid galvanised iron conduit.

Joints in cables, how made, insulated, and protected Soldered joints, covered with rubber insulation and friction tape. Joint made with a non-corrosive flux.

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 Through rigid iron conduit with
Additional protection where required.



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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 *Conduit is made watertight*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Conduit. Asbestos covered wire*

What special protection has been provided for the cables near boiler casings *Asbestos covered wire*

What special protection has been provided for the cables in engine room *In iron conduit*

How are cables carried through beams *In conduit* through bulkheads, &c. *In conduit. W. I. fittings*

How are cables carried through decks *In conduit. made watertight with locknuts & washers & canvas*

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

If so, how are they protected *By conduit*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes*

If so, how are the lamp fittings and cable terminals specially protected *With wire guards*

Where are the main switches and fuses for these lights fitted *In tween deck passage*

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 *Plug boxes*

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 *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 *Vapor proof globes with wire guards. American Institution of Electrical Engineers*

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 *500* 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 *1000* 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.

H. Osborn

Electrical Engineers

Date *Mar. 14, 1921*

COMPASSES.

Distance between dynamo or electric motors and standard compass *330 ft Aft or 100 ft Forward.*

Distance between dynamo or electric motors and steering compass *60 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>1/2</i>	<i>5</i>	<i>8</i>	
A cable carrying	Amperes	feet from standard compass	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 *Not yet adjusted*

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.

Pedestal Shipbuilding Co., W. W. Smith, Ch. Eng. Builder's Signature. Date *March 14, 1921*

GENERAL REMARKS.

The above installation has been fitted on board the vessel in a satisfactory manner. The material & workmanship so far as can be seen are sound and good, and proved satisfactory under test.

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

Survey Fee \$275.00

elec. Lt.

J. Hockhart.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

New York

MAR 22 1921

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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.