

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of New York Date of First Survey 12 Oct Date of Last Survey Nov. 11th 1918 No. of Visits 18
 No. in Reg. Book on the Iron or Steel S.S. "Federal" Port belonging to Kearny, N.J.
 Built at Kearny, N.J. By whom Federal S. B. Co. When built 11-1918.
 Owners W. S. Shipping Board Emergency Fleet Corp. Owners' Address Philadelphia Pa.
 Yard No. 2 Electric Light Installation fitted by Federal S. B. Co When fitted 11-1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Direct connected Generators, General Electric Cos. type M.P. 6 Pole 475 R.P.M. 6000 - pound wound 10 K.W., connected to Vert. single cylinder Engines (6 1/2" x 5") 125/65 Steam Pressure.

Capacity of Dynamo 90. Amperes at 110/125 Volts, whether continuous or alternating current Continuous.
 Where is Dynamo fixed Std. side lower Engine Room. Whether single or double wire system is used Double.

Position of Main Switch Board Engine room in Generator having switches to groups A.B.C.D.E. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1-4 circuit panel after quarters under Poop Deck, 1-6 circuits panel for Midship Deck house located in passage, 1-4 circuit panel in Ford Deck house, 1-6 circuit panel in Engine Room.

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 Not used.

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

Total number of lights provided for 196 arranged in the following groups :-

A	Panel A-38	lights each of	50 Watts.	candle power requiring a total current of	19.	Amperes
B	" B-54	lights each of	50 "	candle power requiring a total current of	27.	Amperes
C	" C-48	lights each of	50 "	candle power requiring a total current of	34.	Amperes
D	" D-20	lights each of	50 "	candle power requiring a total current of	10.	Amperes
E	Feeder Ford -36	lights each of	50 "	candle power requiring a total current of	18.	Amperes
	1 Mast head light with	2 lamps each of	32	candle power requiring a total current of	<u>only one lamp can operate at same instant</u>	
	2 Side lights with	2 lamps each of	32	candle power requiring a total current of	1 amp. each. Amperes	
	9	Cargo lights of	4-50 Watt lamp each	candle power, whether incandescent or arc lights	Incandescent.	

If arc lights, what protection is provided against fire, sparks, &c. Not used.

Where are the switches controlling the masthead and side lights placed Pilot house. (Automatic Indicators)

DESCRIPTION OF CABLES.

Main cable carrying	<u>90/40</u> Amperes, comprised of	<u>2 1/2</u> wires, each	<u>Nº 0</u> S.W.G. diameter,	<u>105500 C.M.</u> square inches total sectional area
Branch cables carrying	<u>30/30</u> Amperes, comprised of	<u>2 1/2</u> wires, each	<u>6 Search</u> S.W.G. diameter,	<u>41740 " " "</u> square inches total sectional area
Branch cables carrying	<u>20</u> Amperes, comprised of	<u>2</u> wires, each	<u>10</u> S.W.G. diameter,	<u>16510 " " "</u> square inches total sectional area
Leads to lamps carrying	<u>15</u> Amperes, comprised of	<u>2</u> wires, each	<u>14</u> S.W.G. diameter,	<u>4107 " " "</u> square inches total sectional area
Cargo light cables carrying	<u>4</u> Amperes, comprised of	<u>2</u> wires, each	<u>10</u> S.W.G. diameter,	<u>10380 " " "</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All conductors are National Electric Code, Rubber covered, double Braid.
Twin conductor cables up to 30,000 C.M. are used where possible.
All conductors larger than Nº 14 A.W.G. are stranded.

Joints in cables, how made, insulated, and protected All joints are soldered using Non-corrosive flux, insulated with rubber tape + protected with a wrapping of friction tape - all joints are enclosed in approved fittings or 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 all wires with exception of 6 Volt call bell systems are carried in approved iron conduit.



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 All cables are enclosed in rigid iron conduit with W.T. couplings & fittings.

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

What special protection has been provided for the cables near boiler casings Iron conduit.

What special protection has been provided for the cables in engine room Iron conduit.

How are cables carried through beams Through holes provided & spaces available. through bulkheads, &c. N.W.T. - Drilled holes W.T. - same as Decks.

How are cables carried through decks Iron conduit, made W.T. with locknuts, washers & canvas painted with red lead.

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 Enclosed in Iron Conduit clipped to Inside of longitudinal channels.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage 2 - In cargo space, Shelter Deck.

If so, how are the lamp fittings and cable terminals specially protected W.T. brass fixtures with extra globe & guard.

Where are the main switches and fuses for these lights fitted Inside of W.T. Door Shelter deck.

If in the spaces, how are they specially protected Switches extra heavy, Navy std. brass, located in corners.

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, fixed 2 - on Main switchboard & 1 - for each generator

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 American Institute of Electrical Engineers 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 625 megohms per 1000 feet 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.

(See signature below) _____ Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass approx 110'0"

Distance between dynamo or electric motors and steering compass " 110'0"

The nearest cables to the compasses are as follows:—

A cable carrying <u>30 (Search light)</u> Amperes	<u>8'0"</u>	feet from standard compass	<u>9'0"</u>	feet from steering compass
A cable carrying <u>3</u> Amperes	<u>6'0"</u>	feet from standard compass	<u>5'0"</u>	feet from steering compass
A cable carrying <u>1/2</u> Amperes	<u>in compass</u>	feet from standard compass	<u>in compass</u>	feet from steering compass

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

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.

Per pro Federal Shipbuilding Co Builder's Signature. Date Nov 30th 1918.

GENERAL REMARKS.

The fitting of the wires throughout the vessel is as stated in the Report & appears to be in accordance with Committee's Requirements.

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

C. J. Macdonald Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. Lt

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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