

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16769

Port of New York Date of First Survey 21 April Date of Last Survey 23 May 1919 No. of Visits 10  
 No. in Reg. Book on the Iron or Steel San. Scr. Ste. Lorain Port belonging to Kearny, N.J.  
 Built at Kearny, N.J. By whom Federal S. B. Co. When built 1919  
 Owners U. S. Shipping Board Owners' Address Philadelphia, Pa.  
 Yard No. 12 Electric Light Installation fitted by Federal S. B. Co. When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two direct-connected Generators, Gen. Electric Cos. type, M.P. 6 Pole, 475 A.P.M. Com. pound wound 10 K.W. Vert. sin. cyl. Engines (6 1/2" x 5"), 125 lbs. steam pressure.  
 Capacity of Dynamo 90/80 Amperes at 110/125 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Stbd lower engine room Whether single or double wire system is used Double  
 Position of Main Switch Board At Generators 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 br. panel Aft quarters under Prop Dk.  
1-6 br. panel Midship Dk. house, located in passage. 1-4 br. panel in Fore Dk. house,  
1-6 br. 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 :-

Group	Description	Lights	Watts	Current (Amperes)
A	Panel	38	50	19
B	"	59	50	27
C	"	40	50	24
D	"	20	50	10
E	Fore Dk.	36	50	18
	One Mast head light with 2 lamps each of 32	2	32	7
	Two Side lights with 2 lamps each of 32	2	32	7
	Nine Cargo lights of 4-50 Watt lamps each	9	50	18

*ONLY ONE LAMP CAN OPERATE AT ANY INSTANT*

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.

Wires	Amperes	Wires	W.G. diameter	Square inches total sectional area
Main cable carrying <u>90</u>	comprised of <u>2</u>	wires, each <u>No. 4</u>	W.G. diameter, <u>105500 CM.</u>	<u>41740</u>
Branch cables carrying <u>40</u>	comprised of <u>2</u>	wires, each <u>6</u>	W.G. diameter, <u>26250</u>	<u>16510</u>
Branch cables carrying <u>30</u>	comprised of <u>2</u>	wires, each <u>8</u>	W.G. diameter, <u>10380</u>	<u>4107</u>
Branch cables carrying <u>20</u>	comprised of <u>2</u>	wires, each <u>10</u>	W.G. diameter, <u>10380</u>	<u>10380</u>
Leads to lamps carrying <u>15</u>	comprised of <u>2</u>	wires, each <u>14</u>	W.G. diameter, <u>4107</u>	<u>10380</u>
Cargo light cables carrying <u>4</u>	comprised of <u>2</u>	wires, each <u>10</u>	W.G. diameter, <u>10380</u>	

## 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 14 A.W.G. are stranded.  
 Joints in cables, how made, insulated, and protected Joints are soldered, using non-corrosive flux, insulated with rubber tape, protected with a wrapping of friction tape & 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 the 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 *Where possible to do so.*

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 <sup>WT. BLINDS same as Decks</sup> <sub>etc.</sub> through bulkheads, &c. *W.T. " Grilled holes**

How are cables carried through decks *In iron conduit made W.T. with lock-nuts, 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 *In iron conduit clipped to the inside of longitudinal channels.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes. 2 in cargo space. 1 in coal bunker.*

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

Where are the main switches and fuses for these lights fitted *Inside of W.T. door 1 in coal bunker.*

If in the spaces, how are they specially protected *switches are extra heavy, heavy old brass, protected by locating them 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. Two* fixed *on main switchboards.*

**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 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 <sup>1000 FEET</sup> 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. *2000*

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.

*R. W. Euckson* Electrical Engineers Date *26-5-19*

**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 <i>30 (Searchlight)</i> Amperes	<i>8</i> feet from standard compass	<i>9</i> feet from steering compass
A cable carrying <i>3</i> Amperes	<i>6</i> feet from standard compass	<i>5</i> feet from steering compass
A cable carrying <i>1/2</i> Amperes	<i>6</i> feet from standard compass	<i>1.5</i> feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *Yes. on trial.*

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.

*The Federal Shipbuilding Co., W. C. Smith, A. Page.* Builder's Signature. Date *26-5-19.*

**GENERAL REMARKS.**

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

*It is submitted that this vessel is eligible for*

**THE RECORD, ELEC. LIGHT.**

*J. W. Rell.*  
*3-7-19.*

*B. J. Macdonald.*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *Elec. Lt.* New York JUN 17 1919

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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