

THU MAR. 25 1920

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 18082

of New York Date of First Survey 20 Jan 1920 Date of Last Survey 2 Feb 1920 No. of Visits 4
 on the ~~Iron or Steel~~ STEEL AGE Port belonging to New York
 Built at Kearny, N.J. By whom Federal S.B.C. When built 1920
 U.S. Steel Products Co. Owners' Address New York
 No. 31 Electric Light Installation fitted by Federal S.B.C. When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct-connected Generators, General Electric Co's Type M.P. 6 Pole 475 r.p.m. Compound
and 10 Kw. Connected to vertical single cylinder (6 1/2" x 5") steam engine, 80 lbs steam pressure.
 Capacity of Dynamo 90 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Is Dynamo fixed Engine room, starboard side Whether single or double wire system is used double
 Location of Main Switch Board Engine room, near Generator having switches to groups A, B, C, D, E of lights, &c., as below
 Locations of auxiliary switch boards and numbers of switches on each One - 4 circuit panel, after quarters, under poop
deck, one 6-circuit panel for midship deck house located in passage, one 6-circuit panel
for fore deck house and one 8-circuit panel in engine room.
 Are fuses 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
 Are fuses fitted 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

Number of lights provided for 196 arranged in the following groups:—

Group	Description	Watts	Candle power	Amperes
Panel A	38 lights each of 50	1900	19	Amperes
" B	54 lights each of 50	2700	27	Amperes
" C	48 lights each of 50	2400	24	Amperes
" D	20 lights each of 50	1000	10	Amperes
Frederick	36 lights each of 50	1800	18	Amperes
1	Mast head light with 2 lamps each of 32	64	1	Amperes
2	Side light with 2 lamps each of 32	64	1 (each)	Amperes
9	Cargo lights of 4 - 50 watt lamps each	200	incandescent	

arc lights, what protection is provided against fire, sparks, &c. no arc lights

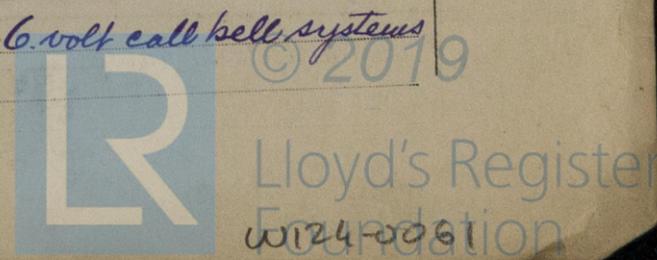
Where are the switches controlling the masthead and side lights placed Pilot house (automatic indicators)

DESCRIPTION OF CABLES.

Description	Amperes	Wires	A.W.G.	S.W.G. diameter	C.M. each cable	Square inches total sectional area
in cable carrying <u>90</u>	comprised of <u>2</u>	wires, each <u>#0</u>		<u>105500</u>	<u>41740</u>	square inches
branch cables carrying <u>40</u>	comprised of <u>2</u>	wires, each <u>4 radio</u>		<u>26250</u>	<u>16510</u>	square inches
branch cables carrying <u>30</u>	comprised of <u>2</u>	wires, each <u>8</u>		<u>10380</u>		square inches
branch cables carrying <u>20</u>	comprised of <u>2</u>	wires, each <u>10</u>		<u>4107</u>		square inches
leads to lamps carrying <u>15</u>	comprised of <u>2</u>	wires, each <u>14</u>		<u>10380</u>		square inches
argo light cables carrying <u>4</u>	comprised of <u>2</u>	wires, each <u>10</u>				square inches

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 All joints are soldered, using non-corrosive
flux, insulated with rubber tape & protected with 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 *when 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 enclosed in rigid iron conduits 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 conduits.*

What special protection has been provided for the cables near boiler casings *iron conduit & asbestos covered cables.*

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. non w.t. b'lds — drilled holes w.t. b'lds — same as decks.*

How are cables carried through decks *through iron conduit made w.t. with lock nuts, washers & canvas washers painted with red lead.*

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

If so, how are they protected *by being carried 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 *12 lamps in cargo space, shelter deck.*

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

Where are the main switches and fuses for these lights fitted *inside w.t. door, shelter deck.*

If in the spaces, how are they specially protected *Extra heavy switches of navy std. brass. protected by locating them in corners.*

Are any switches or fuses fitted in bunkers

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.* *one for each generator fixed on main 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 *American Institute 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 *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. *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.

J. H. Osborne Electrical Engineers Date *Feb. 12, 1920*

COMPASSES.

Distance between dynamo or electric motors and standard compass *approx 110 feet*

Distance between dynamo or electric motors and steering compass *approx 110 feet.*

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>in compass.</i>	feet from standard compass		feet from steering compass

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 *all* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

The Federal Shipbuilding Co., W. D. Smith, A. Engr. Builder's Signature. Date *Feb. 12, 1920.*

GENERAL REMARKS.

The fitting of the wires throughout the vessel is as stated in above report. It appears to be in accordance with the Committee's requirements.

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

H. S. 3/13/20

H. S. Johnson
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *Elec L* New York Feb 24 1920



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