

REPORT ON ELECTRIC LIGHTING INSTALLATION, No. 17618

Port of New York Date of First Survey Sept Date of Last Survey Oct. 1919 No. of Visits 7
 No. in Reg. Book on the Iron or Steel Sec. Str. "BELLHAVEN." Port belonging to Kearny, N.J.
 Built at Kearny, N.J. By whom Federal S. B. Co. When built 1919-10
 Owners U. S. Shipping Board Owners' Address Philadelphia, Pa.
Emergency Fleet Corp.
 Yard No. 23 Electric Light Installation fitted by Federal S. B. Co. When fitted 1919-10

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Direct-connected Generators, Gen. Electric Co. type, M. P. 6 Pole, compound wound, 15 K.W. Vert. sin. cyp. Engines (8" x 6"), 125 lbs. Steam pressure

Capacity of Dynamo 330 Amperes at 115 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 Near 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 Cir. panel, Aft. quarters under Poop Deck, 1-6 liv. panel, Midship Deck house, located in passage, 1-6 liv. panel, Fore Deck house, 1-8 Cir 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	38	lights each of	50 Watts,	candle power requiring a total current of	19	Amperes
B	"	54	lights each of	" "	candle power requiring a total current of	27	Amperes
C	"	48	lights each of	" "	candle power requiring a total current of	24	Amperes
D	"	20	lights each of	" "	candle power requiring a total current of	10	Amperes
E	Fore Deck	36	lights each of	" "	candle power requiring a total current of	18	Amperes
	One Mast head light with	2	lamps each of	32	candle power requiring a total current of	1	Amperes
	Two Side light with	2	lamps each of	32	candle power requiring a total current of each	1	Amperes
	Nine		Cargo lights of 4-50 Watt lamps, 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 (Auto. Indicators)

DESCRIPTION OF CABLES.

Main cable carrying	90	Amperes, comprised of	2	wires, each	No. 0	S. W. G. diameter,	105625	EACH CABLE
	40		2		" 4 No. 10		105500 C.M.	square inches total sectional area
Branch cables carrying	30	Amperes, comprised of	2	wires, each	" 6	S. W. G. diameter,	41740	" 41616
	30		2		" 8		26250	" 26244
Branch cables carrying	30	Amperes, comprised of	2	wires, each	" 10	S. W. G. diameter,	16570	" 16284
	15	Amperes, comprised of	2	wires, each	" 14	S. W. G. diameter,	10380	" 10384
Leads to lamps carrying	4	Amperes, comprised of	2	wires, each	" 10	S. W. G. diameter,	4107	" 4096
Cargo light cables carrying	4	Amperes, comprised of	2	wires, each	" 10	S. W. G. diameter,	10380	" 10404

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 AWG 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 & inclosed 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 system 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 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 Asbestos covered cables in 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. ^{NWT Drilled holes} Same as Decks

How are cables carried through decks 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 inside of longitudinal channels

Are any lamps fitted in coal bunkers or spaces which may, at times be used for cargo, coals, or baggage No. Portable lamps used

If so, how are the lamp fittings and cable terminals specially protected Heavy std. W.T. Plugs

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

If in the spaces, how are they specially protected Switches are extra heavy, heavy std. brass, protected by locating 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 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

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 ^{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.

R. W. Erickson 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 " "

The nearest cables to the compasses are as follows:—

A cable carrying <u>30 SEARCHLIGHT</u>	Amperes <u>8</u>	feet from standard compass <u>9</u>	feet from steering compass <u>9</u>
A cable carrying <u>3</u>	Amperes <u>6</u>	feet from standard compass <u>5</u>	feet from steering compass <u>5</u>
A cable carrying <u>1/2</u>	Amperes <u>8</u>	feet from standard compass <u>1.5</u>	feet from steering compass <u>1.5</u>

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., N.W. Smith, Ch. Eng. Builder's Signature. Date _____

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for THE RECORD. ELEC. LIGHT. 2/12/19

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

Elec Lt Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

150,110—Transfer.

