

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17517

Port of New York Date of First Survey 13 Aug Date of Last Survey 2 Oct/19 No. of Visits 4
 No. in SS Buffalo Bridge on the Iron or Steel h.g. Port belonging to Newark n.g.
 Reg. Book Built at Newark n.g. By whom Submarine Boat Corporation When built 1919
 Owners United States Shipping Board Owners' Address Broad & Cherry St Philadelphia
 Card No. 67 Electric Light Installation fitted by Submarine Boat Corporation When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Generators each direct driven by a vertical reciprocating engine (450 R.P.M.) each unit capable of handling the load. Generators built by General Elec. Co. Engine by Tru Engineering Mach. Co.

Capacity of Dynamo 90 Amperes at 110 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine room Starboard side Whether single or double wire system is used Double

Position of Main Switch Board adjacent to dynamo 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 Galley (8 switches) Officers Kitchen (6 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 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 —

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

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

A	37	lights each of	25	candle power requiring a total current of	8 1/2	Amperes
B	29	lights each of	40	candle power requiring a total current of	10 1/2	Amperes
C	40	lights each of	40	candle power requiring a total current of	14 1/2	Amperes
D	39	lights each of	25	candle power requiring a total current of	9	Amperes
E	1 Search	lights each of	4000	candle power requiring a total current of	36	Amperes
2	Mast head light with 1	lamps each of	40	candle power requiring a total current of	1/3	Amperes
2	Side light with 1	lamps each of	40	candle power requiring a total current of	2/3	Amperes
12	Cargo lights of 4 lamp each	25 watts		candle power, whether incandescent or arc lights	mean descent	

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

Where are the switches controlling the masthead and side lights placed in wheel house

DESCRIPTION OF CABLES.

Main cable carrying 75 Amperes, comprised of 1 wires, each #2 B7S diameter, .052 square inches total sectional area
 Branch cables carrying 30 Amperes, comprised of 1 wires, each #6 B7S diameter, .020 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 1 wires, each #8 B7S diameter, .013 square inches total sectional area
 Leads to lamps carrying 1/2 Amperes, comprised of 1 wires, each #10 B7S diameter, .008 square inches total sectional area
 Cargo light cables carrying 10 Amperes, comprised of 1 wires, each #14 B7S diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

BXL And flexible steel cables throughout metal mouldings in Officers quarters and wheel house

Joints in cables, how made, insulated, and protected no joints except at terminal 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 none

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 Cables led along under side of deck and securely fastened to same. These cables being armoured require no additional special protection

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 *Terminal boxes only*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *none*

What special protection has been provided for the cables near boiler casings *Cables carried against grating ^{Boiler casings} supports ^{clean}*

What special protection has been provided for the cables in engine room *none*

How are cables carried through beams *(Securely clamped to prevent chafing) Through clearance holes and through bulkheads, &c. none except at shaft ally*

How are cables carried through decks *Through Plated bulkheads & locknuts both sides stuffing glands on top side*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *in bridge enclosure*

If so, how are they protected *by being clamped against deck above between beams*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *none except bridge enclosure*

If so, how are the lamp fittings and cable terminals specially protected *waterlight attachment plug receptacle in bridge enclosure*

Where are the main switches and fuses for these lights fitted *Switch-board*

If in the spaces, how are they specially protected *waterlight-boxes*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *Strapped to girder*

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 switch 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 *—*

The copper used is guaranteed to have a conductivity of not less than that of the *A.I.E.E.* 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 *80* 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 500 volts and while the cable is still immersed.

Insulation in accordance with the requirements of the national board of underwriters
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.

Harold L. Leonard *Asst. Electrical Engineers* Date *Oct 2, 1919*

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 140 ft.*

Distance between dynamo or electric motors and steering compass *about 135 ft.*

The nearest cables to the compasses are as follows:—

" A cable carrying *35* Amperes *270* feet from standard compass *50* feet from steering compass

A cable carrying *1/4* Amperes *22* feet from standard compass *50* feet from steering compass

A cable carrying *10* Amperes *27* feet from standard compass *50* feet from steering compass

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

The maximum deviation due to electric currents, etc., was found to be *1 1/2* degrees on *1* course in the case of the

standard compass and *1 1/2* degrees on *1* course in the case of the steering compass.

Res. All. Comp.
Builder's Signature. Date *17/1/19*

GENERAL REMARKS.

The installation has been fitted in the S.S. Buffalo Bridge under special Survey. Generators erected on rigid seatings. The wire are stranded. The fitting of the wire throughout are as stated on above report and appear to be in accordance with the Committee's requirements.

this vessel is eligible for THE RECORD. Elec. light. *17/1/19*
L. Nosworthy
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *Elec. Lt.*

Im. 11, 13.—Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.