

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of SEATTLE Date of First Survey OCT-1915 Date of Last Survey DEC-10, 1916 No. of Visits 16
 No. in on the Iron or Steel STEAMSHIP "CAUTO" Port belonging to NEW YORK
 Reg. Book Built at SEATTLE By whom SEATTLE CONST. & DRY DOCK COMPANY When built 1916
 Owners NEW YORK & CUBA MAIL & STEAMSHIP CO. Owners' Address NEW YORK
 Yard No. 85 Electric Light Installation fitted by SEATTLE CONST. & DRY DOCK COMPANY When fitted 1916

DESCRIPTION OF DYNAMO, ENGINE, ETC. ONE (1) 20 K.W. GENERAL ELECTRIC CO'S MARINE TYPE GENERATING SET, DYNAMO MULTI-POLAR, 110 VOLTS : ALSO TWO (2) 7 K.W. GENERAL ELECTRIC CO'S MARINE TYPE GENERATING SETS, DYNAMOS MULTI-POLAR, 110 VOLTS.

Capacity of Dynamo 2-7 K.W. 130. } 315 Amperes at 110 Volts, whether continuous or alternating current CONTINUOUS ✓
1-20 K.W. 185 }
 Where ARE DYNAMOS fixed ENGINE RM., FR. 91-99, STARB'D Whether single or double wire system is used DOUBLE ✓

Position of Main Switch Board ENGINE RM., FR. 95-99, STARB'D having switches to groups of lights, &c., as below

Positions of { DISTRIBUTION BOXES } auxiliary switch boards and numbers of switches on each 1-12-WAY IN ICE MACHINE RM. : 1-12-WAY IN STARB'D PASSAGE, UPPER DECK QUARTERS : 1-12-WAY IN THWARTSHIPS DECK PASSAGE, FR. 85, BRIDGE DECK. 1-8-WAY IN STORE ROOM, FR. 73, BOAT DECK

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits YES

Are the cut outs of non-oxidizable metal YES and constructed to fuse at an excess of 50 per cent over the normal current

Are all cut outs 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 CARTRIDGE FUSES USED

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases YES

Total number of lights provided for 235 arranged in the following groups :—(AMPERES 109.11)

A	(INCLUDING FIXED) 215 lights each of 25 WATTS	candle power requiring a total current of	48.80	Amperes
B	7 VENT MOTORS lights each of 2 H.P.	candle power requiring a total current of	10.44	Amperes
C	1 SEARCHLIGHT lights each of 15 IN.	candle power requiring a total current of	20.00	Amperes
D	1 RADIO SET, lights each of 2 K.W.	candle power requiring a total current of	18.88	Amperes
E	lights each of	candle power requiring a total current of		Amperes
	2 Mast head lights with 2 lamps each of 25 WATTS	candle power requiring a total current of	0.45	Amperes
	2 Side lights with 2 lamps each of 25 WATTS	candle power requiring a total current of	0.45	Amperes

20 PORTABLE Cargo lights of 60 WATTS EACH candle power, whether incandescent or arc lights TUNGSTEN

If are lights, what protection is provided against fire, sparks, &c. —

Where are the switches controlling the masthead and side lights placed WHEEL HOUSE (INDIVIDUAL); MAIN SWITCHBOARD (GROUP)

DESCRIPTION OF CABLES.

Main cable carrying	125 Amperes, comprised of	19 wires, each	.104 L.S.G. diameter,	.161 square inches total sectional area
	50	19	.056	.045
Branch cables carrying	20-40 Amperes, comprised of	7 wires, each	.072 L.S.G. diameter,	.028 square inches total sectional area
Branch cables carrying	10-20 Amperes, comprised of	7 wires, each	.048 L.S.G. diameter,	.012 square inches total sectional area
Leads to lamps carrying	25 to 1 Amperes, comprised of	1 wires, each	.080 L.S.G. diameter,	.005 square inches total sectional area
Cargo light cables carrying	Amperes, comprised of	wires, each	L.S.G. diameter,	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

INSULATION IS OF BEST VULCANIZED RUBBER, AND COTTON BRAID SATURATED WITH PURE WAX COMPOUND : ALL CABLES LESS THAN 60,000 C.M. ARE TWIN CONDUCTORS, GROUPED TOGETHER, FILLED WITH BEST RUBBER COMPOUND, AND BOUND WITH TAPE AND BRAID Joints in cables, how made, insulated, and protected SOLDERED : BOUND WITH ONE LAYER OF RUBBER TAPE, TWO LAYERS OF FRICTION TAPE, AND PAINTED WITH P & B INSULATING PAINT

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 ALL ACCESSIBLE

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 IN GALVANIZED CONDUIT, STRAPPED TO BEAMS

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible? **YES**

What special protection has been provided for the cables in open passageways or where exposed to weather or moisture **GALVANIZED CONDUIT**

What special protection has been provided for the cables near galleys or oil lamps, or other sources of heat **GALVANIZED CONDUIT**

What special protection has been provided for the cables near boiler casings **GALVANIZED CONDUIT**

What special protection has been provided for the cables in engine room **GALVANIZED CONDUIT**

How are cables carried through beams **IN GALVANIZED CONDUIT** through bulkheads, &c. **IN GALVANIZED CONDUIT**

How are cables carried through decks **THROUGH BULKHEAD STUFFING TUBES**

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 **GALVANIZED CONDUIT**

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage **YES**

If so, how are the lamp fittings and cable terminals specially protected **BY VAPOR-PROOF GLOBES, & HEAVY WIRE GUARDS**

Where are the main switches and cut outs for these lights fitted **IN CARGO DISTRIBUTION BOX, IN ICE-MACHINE RM.**

If in the spaces, how are they specially protected **—**

Are any switches or cut outs fitted in bunkers **No**

Cargo light cables, whether portable or permanently fixed **PERMANENT** How fixed **GALVANIZED CONDUIT**

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 **—**

The installation is **✓** supplied with a voltmeter and **3** amperemeters fixed **ON SWITCHBOARD**

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas **—**

Are any switches, cut outs, 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 **98** per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than **115-200** megohms per statute mile after 24 hours' immersion in seawater.

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.

Wm. C. Cullen

Electrical Engineers

Date **DEC. 11 - 1916**

COMPASSES.

Distance between dynamo or electric motors and standard compass **125 Ft.**

Distance between dynamo or electric motors and steering compass **118 Ft.**

The nearest cables to the compasses are as follows:—

A cable carrying **20** Amperes **6** feet from standard compass **6** feet from steering compass

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

A cable carrying Amperes 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 **No** degrees on **DIFFERENT** course in the case of the

standard compass and **No** degrees on **DIFFERENT** course in the case of the steering compass.

Seattle Construction & Dry Dock Company

Builder's Signature.

Date **DEC. 11, 1916**

GENERAL REMARKS.

The electric lighting installation has been installed under special survey. The material and workmanship are both of good quality, tested under working conditions and found good and efficient.

THE RECORD

Elec. light.

W.D.

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

Elec. light

New York JAN 18 1917



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.