

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 222

Port of Seattle Wash Date of First Survey 24-6-18 Date of Last Survey 3-9-18 No. of Visits 18
 No. in on the ~~Iron~~ or Steel S.S. Western Cross Port belonging to Seattle Wash. U.S.A.
 Reg. Book 1st Entry Built at Seattle Wash U.S.A. By whom J. H. Duthie & Co. When built 1918
 Owners U.S. Shipping Bd & Emergency Fleet Corp. Owners' Address Securities Bldg Seattle Wash U.S.A.
 Yard No. 18 Electric Light Installation fitted by G. R. Cooley Coy When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 General Electric Coy 10 KW. Speed 475 R.P.M. Form C in parallel
Engine Single cylinder $6\frac{1}{2} \times 5$ 80 lbs Steam pressure
 Capacity of Dynamo 90 Amperes at 110 Volts, whether continuous or ~~alternating~~ current Continuous
 Where is Dynamo fixed On flat side Eng Room Whether single or double wire system is used Double
 Position of Main Switch Board Eng Room near generator having switches to groups ✓ of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Forecastle Cabt 4 circ. Fore Bridge deck house
Cabt 4 circ. Upper Eng Room Cabt 3 panels 6 cts each. Lower Eng Room Cabt 6 cts
Officer's Gas Cabt 4 cts Yelltable bd in wheel house
 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~~ 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 0.70 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 None
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Slate panels in steel Cabts
 Total number of lights provided for 164 arranged in the following groups:—
 A Forecastle Cabt 16 lights each of 40 Watt candle power requiring a total current of 640 Watts Amperes
 B Fore Bridge DH. 31 lights each of 40 " candle power requiring a total current of 1240 " Amperes
 C Upper Eng Room 47 lights each of 40 " candle power requiring a total current of 1880 " Amperes
 D Lower Eng Room 33 lights each of 40 " candle power requiring a total current of 1320 " Amperes
 E Officer's Gas 25 lights each of 40 " candle power requiring a total current of 920 " Amperes
Yelltable Cabt 10 " " " 40 + 20 " " " " " 320 " Amperes
2 Mast head light with 1 lamps each of 40 candle power requiring a total current of 80 " Amperes
2 Side light with 1 lamps each of 40 candle power requiring a total current of 80 " Amperes
10 Cargo lights of 4-60 Watt each candle power, whether incandescent or arc lights Incandescent
 If arc lights, what protection is provided against fire, sparks, &c. Conductors in conduit & switch board & fuses in steel cabinets
 Where are the switches controlling the masthead and side lights placed St Side of wheel house

DESCRIPTION OF CABLES.

Main cable carrying 90 Amperes, comprised of 7 wires, each 0.1400 S.W.G. diameter, 139200 cm² square inches total sectional area
 Branch cables carrying 100 Amperes, comprised of 7 wires, each 0.0775 S.W.G. diameter, 41,742 cm² square inches total sectional area
 Branch cables carrying 40 Amperes, comprised of 7 wires, each 0.0485 S.W.G. diameter, 16,509 cm² square inches total sectional area
 Leads to lamps carrying 5 Amperes, comprised of 1 wires, each 4.106 S.W.G. diameter, 4,106 cm² square inches total sectional area
 Cargo light cables carrying 8 Amperes, comprised of 1 wires, each 4.106 S.W.G. diameter, 4,106 cm² square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber covered wire fused in all cabinets throughout the ship

Joints in cables, how made, insulated, and protected all joints mechanically tight. Soldered and taped with rubber & friction tape

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 No

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 Run in conduit & fitted with stuffing boxes at bulkheads except Fore Bridge House where moulding is used

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible no

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Conduit is used with leaded joints

What special protection has been provided for the cables near galley or oil lamps or other sources of heat WT. Fittings, globes & guards

What special protection has been provided for the cables near boiler casings WT. Fittings, globes & guards

What special protection has been provided for the cables in engine room " " " " "

How are cables carried through beams in Conduit through bulkheads, &c. Conduit through stuffing boxes

How are cables carried through decks Conduit through stuffing boxes

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 Conduit

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

If so, how are the lamp fittings and cable terminals specially protected plug connections used

Where are the main switches and fuses for these lights fitted Cabin after Engine Room

If in the spaces, how are they specially protected ✓

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 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 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 600 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.

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. F. Duthie & Co. B. O. Getherick for Booley Electric Co.
Chf. Eng. Electrical Engineers

Date Oct 3/18.

COMPASSES.

Distance between dynamo or electric motors and standard compass About 110 ft.

Distance between dynamo or electric motors and steering compass ✓

The nearest cables to the compasses are as follows:—

| | | | | | |
|---------------------------------------|----------------|----------------|----------------------------|--------------|----------------------------|
| A cable carrying <u>Searchlight</u> | <u>Amperes</u> | <u>40 Watt</u> | feet from standard compass | <u>8'-0"</u> | feet from steering compass |
| A cable carrying <u>Yellale Board</u> | <u>Amperes</u> | <u>7 Watt</u> | feet from standard compass | <u>8'-0"</u> | feet from steering compass |
| A cable carrying | <u>Amperes</u> | | 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 Various course in the case of the standard compass and Nil degrees on Various course in the case of the steering compass.

J. F. Duthie & Co. B. O. Getherick Builder's Signature. Date Oct 3/18.

GENERAL REMARKS. The Electric lighting installation of good quality and workmanship. Tested under working conditions and found satisfactory. Eligible in my opinion to be noted in the Register Book

It is submitted that this vessel is eligible for

THE RECORD. Elec. light.

J. F. Duthie
13/11/18.

W. H. Ewing

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. light

New York NOV 6. 1918



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