

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 540

Port of SEATTLE Date of First Survey AUG 3 Date of Last Survey OCT. 22 No. of Visits 7
 No. in on the Iron-on Steel SS "INDIANA" Port belonging to SEATTLE
 g. Book
 ENTRY Built at SEATTLE By whom SKINNER & EDDY CORPORATION When built 1917
 Owners U.S. SHIPPING BOARD EMERGENCY Owners' Address SEATTLE
 rd No. 9 Electric Light Installation fitted by BUILDERS When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 15 K.W. 125 VOLT GENERAL ELECTRIC COS COMPOUND WOUND GENERATORS DIRECT CONNECTED TO SINGLE CYLINDER RECIPROCATING ENGINE

Capacity of Dynamo 125 Amperes at 125 Volts, whether continuous or alternating current D.C.

Where is Dynamo fixed ON PLATFORM IN ENG. ROOM Whether single or double wire system is used DOUBLE

Position of Main Switch Board ON GENERATOR PLATFORM having switches to groups TWELVE of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each ONE IN FRONT OF PILOT HOUSE 6 SWITCHES - TWO IN PORT PASSAGE FORWARD DECK HOUSE 6 SWITCHES EACH - ONE IN STBD. AND ONE IN PORT PASSAGE OF MIDSHIP DECK HOUSE 4 AND SWITCHES RESPECTIVELY - ONE IN PASSAGE OF CREWS QUARTERS 6 SWITCHES - ONE IN ENG. ROOM 8 SWITCHES - ONE IN STARBD. PASSAGE IN FO'CASTLE 4 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 311 arranged in the following groups:—

A	37	lights each of	40 WATTS	candle power requiring a total current of	11.84	Amperes	
B	33	lights each of	40 "	candle power requiring a total current of	10.58	Amperes	
C	65	lights each of	40 "	candle power requiring a total current of	22.40	Amperes	
D	27	lights each of	40 "	candle power requiring a total current of	8.64	Amperes	
E	19	lights each of	40 "	candle power requiring a total current of	4.5	Amperes	
1	Mast head light with	1	lamps each of	40 WATT	candle power requiring a total current of	0.32	Amperes
2	Side light with	1	lamps each of	40 "	candle power requiring a total current of	0.64	Amperes
28	Cargo lights of	4-40 WATT	candle power, whether incandescent or arc lights	INCANDESCENT			

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

Where are the switches controlling the masthead and side lights placed IN FRONT OF CHART ROOM

DESCRIPTION OF CABLES.

Main cable carrying	176 ¹²⁵ Amperes, comprised of	27	wires, each	#11	B.S.G.	✓	C.M.	S.W.G. diameter, 211,600 square inches total sectional area
Branch cables carrying	50 Amperes, comprised of	7	wires, each	#14	B.S.G.	✓	C.M.	S.W.G. diameter, 26,250 square inches total sectional area
Branch cables carrying	30 Amperes, comprised of	7	wires, each	#16	B.S.G.	✓	C.M.	S.W.G. diameter, 16,510 square inches total sectional area
Leads to lamps carrying	2.56 Amperes, comprised of	1	wires, each	#14	B.S.G.	✓	C.M.	S.W.G. diameter, 4,096 square inches total sectional area
Cargo light cables carrying	411 Amperes, comprised of	1	wires, each	#14	B.S.G.	✓	C.M.	S.W.G. diameter, 4,096 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

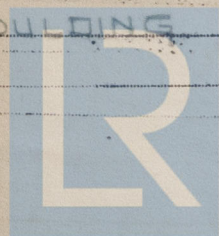
NATIONAL ELECTRIC CODE STANDARD, DOUBLE BRAID

Joints in cables, how made, insulated, and protected SOLDERED, TAPED WITH SPLICING COMPOUND, FRICTION TAPE AND PAINTED WITH P&B. ELECTRIC PAINT

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 IN CONDUIT PIPES & MOULDING



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 METAL CONDUIT CASING

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

What special protection has been provided for the cables near boiler casings CONDUITS

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

How are cables carried through beams CONDUITS through bulkheads, &c. CONDUITS

How are cables carried through decks "

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 WOODEN BOXES AND METAL CONDUITS

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage W.T. SWITCH AND RECEPTACLE

If so, how are the lamp fittings and cable terminals specially protected "

Where are the main switches and fuses for these lights fitted IN HOUSES ON UPPER DECK

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 ^{TWO} a voltmeter YES, and with ^{TWO} an amperemeter YES, 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.

E. N. McCallum Electrical Engineers Date Dec. 5-1917

COMPASSES.

Distance between dynamo or electric motors and standard compass 19 FT.

Distance between dynamo or electric motors and steering compass 11 1/2 FT.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>.32</u>	<u>TWO</u>	<u>ONE</u>	
A cable carrying	Amperes	feet from standard compass	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 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.

Skinner + Eddy Corp. Builder's Signature. Date Dec. 5-1917

GENERAL REMARKS.

The Electric Lighting installation of the best 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.

JWD 16/1/18

James Fowler
Surveyor to Lloyd's Register of Shipping.

Committee's Minute Elec. light

FRI. 22 MAR. 1918

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.