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## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 615

of Portland, Oregon Date of First Survey Dec. 14 '20 Date of Last Survey Jan. 17 '21 No. of Visits 10  
 on the Iron or Steel Screw Steamer "SWIFTSURE" Port belonging to New York, N.Y.  
 Built at Portland, Oregon By whom Northwest Bridge & Iron Co. When built 1921  
 Swiftsure Oil Transport Co. Owners' Address New York  
 40 Electric Light Installation fitted by Ne Page McKenny & Co. When fitted 1921

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two General Electric Co. 15 K.W. 3 wire 110 V. Generators connected to two Marine Type  
 4 cylinder engines.

Volts of Dynamo 140 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Is Dynamo fixed Engine Room Whether single or double wire system is used Double  
 No. of Main Switch Board Engine Room having switches to groups 4 of lights, &c., as below  
 Nos. of auxiliary switch boards and numbers of switches on each Engine Room 4, Aft Quarters 8, Midship Qrs. 8,  
 Gal Lights 5.

Are switches 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  
 Is the wiring on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes  
 Are fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 10 per cent over the normal current  
 Are 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 switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Number of lights provided for 300 arranged in the following groups:—

Do. 110	lights each of	40 W	32	candle power requiring a total current of	40	Amperes
Do. 100	lights each of	40 W	32	candle power requiring a total current of	40	Amperes
60	lights each of	40 W	32	candle power requiring a total current of	30	Amperes
Search Light	lights each of			candle power requiring a total current of	35	Amperes
Deck	lights each of	60 W	40	candle power requiring a total current of	2	Amperes
Must head light with 1	lamps each of	60 W	40	candle power requiring a total current of	$\frac{1}{2}$	Amperes
Side light with 2	lamps each of	60 W	40	candle power requiring a total current of	1	Amperes
Cargo lights of			16	candle power, whether incandescent or arc lights	incandescent	

Are lights, what protection is provided against fire, sparks, &c. ✓

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

## DESCRIPTION OF CABLES.

Cable carrying 125	Amperes, comprised of	19	wires, each	13	S.W.G. diameter,	.225	square inches total sectional area
Each cable carrying 40	Amperes, comprised of	7	wires, each	14	S.W.G. diameter,	.162	square inches total sectional area
Each cable carrying	Amperes, comprised of		wires, each		S.W.G. diameter,		square inches total sectional area
Wires to lamps carrying 7	Amperes, comprised of	1	wires, each	16	S.W.G. diameter,	.004	square inches total sectional area
Light cables carrying 5	Amperes, comprised of	41	wires, each		S.W.G. diameter,	.004	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber covered, double braided National Electric Code Standard.

How are the cables, how made, insulated, and protected spliced, soldered and taped. Splicing compound, friction  
 Is the insulation of cables and 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 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 galvanized metal conduits throughout except in way of  
 compasses where brass conduit piping is used.



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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 Metal Conduit

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

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

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

How are cables carried through beams Metal Conduit through bulkheads, &c. Metal Conduits and Bulkhead fittings.

How are cables carried through decks in watertight deck fittings

Are any cables run through coal bunkers No or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Metal Conduits

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

If so, how are the lamp fittings and cable terminals specially protected watertight globes and guards

Where are the main switches and fuses for these lights fitted on main switchboard in Engine Room

If in the spaces, how are they specially protected watertight globes and guards

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed How fixed

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel How fixed

How are the returns from the lamps connected to the hull How fixed

Are all the joints with the hull in accessible positions How fixed

Is the installation supplied with a voltmeter Yes, and with an amperometer Yes, fixed Engine Room

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 Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas Vapor proof globes and guards

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 1000 megohms per 1000 ft. 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.

Page-McKenny Co Electrical Engineers Date Jan. 26, 1921.

COMPASSES.

Distance between dynamo or electric motors and standard compass 300 ft.

Distance between dynamo or electric motors and steering compass 300 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>1</u>	Amperes	<u>in binnacle of feet from standard compass</u>	<u>in binnacle of</u>	feet from steering compass
A cable carrying	<u>2</u>	Amperes	<u>4</u>	feet from standard compass	<u>4</u> feet from steering compass
A cable carrying	<u>✓</u>	Amperes	<u>✓</u>	feet from standard compass	<u>✓</u> 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 ✓ course in the case of the standard compass and Nil degrees on ✓ course in the case of the steering compass.

Northwest Bridge & Iron Co Builder's Signature. Date Jan. 26, 1921.

GENERAL REMARKS.

The above installation has been made in accordance with the Rules. The material and workmanship are good.

It is submitted that this vessel is eligible for THE RECORD Elec. light.

Committee's Minute Elec. light Surveyor to Lloyd's Register of Shipping. Jan 26/21

New York FEB - 8 1921



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