

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 620

Port of Portland, Oregon Date of First Survey Dec. 20 '20 Date of Last Survey Feb. 17 '21 No. of Visits 12  
 No. in on the Iron or Steel Screw Steamer "LIVINGSTONE ROE" Port belonging to Bayonne, New Jersey  
 Reg. Book Built at Vancouver, Washington By whom G.M. Standifer Const. Corp. When built 1921  
 Owners Standard Oil Co. of New Jersey Owners' Address New Jersey, N.J.  
 Yard No. 18 Electric Light Installation fitted by G.M. Standifer Construction Corp. When fitted 1921

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 20 K.W. 110 Volt Generator Sets by the Western Electric Co. coupled direct to two Marine Type Single Cylinder 9"x7" Engines. Also an emergency Generator of 10 K.W. 110 Volts coupled to a gas engine situated Fwd. Upper Deck.

Capacity of Dynamo 160 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Room Whether single or double wire system is used double

Position of Main Switch Board Engine Room having switches to groups 9 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each E.R. 12, Qrs. Aft 12, Tween Dks. A. 4, Pump Room 4, Midship Dk. Ho. 6, Tween Dk. Fwd. 2, Cargo Space 4, Forward Stores, &c. 2.

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 No

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 20 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 Yes

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

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

1	A	Engine Room	68 lights each of 64 of	150 W	40 candle power requiring a total current of	40	Amperes
2	B	Qrs. Aft	75 lights each of	60 W	40 candle power requiring a total current of	41	Amperes
3	C	T.D. Aft	25 lights each of	60 W	40 candle power requiring a total current of	14	Amperes
4	D	Pump Room	12 lights each of	60 W	40 candle power requiring a total current of	7	Amperes
5	E	M. Dk. House	52 lights each of	60 W	40 candle power requiring a total current of	28	Amperes
6	F	T.D. Fwd.	12 lights each of	60 W	40 candle power requiring a total current of	7	Amperes
7	G	2 Mast head light with 4 lamps each of	60 W	40 candle power requiring a total current of	4 Amps.	7	Amperes
8	H	2 Side light with 4 lamps each of	60 W	40 candle power requiring a total current of		Amperes	
9	I	20 Portable Cargo Lights					
10	J	8 Cargo Space 22 Cargo lights of	60 W	40 candle power, whether incandescent or arc lights	12	"	
11	K	9 Fwd. Stores 12	60 W	40 candle power, whether incandescent or arc lights	7	"	

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

Where are the switches controlling the masthead and side lights placed Pilot House

## DESCRIPTION OF CABLES.

Main cable carrying	160	Amperes, comprised of	37	wires, each	12	S.W.G. diameter,	.275	square inches total sectional area
1 Branch cables carrying	40	Amperes, comprised of	19	wires, each	17	S.W.G. diameter,	.052	square inches total sectional area
2 Branch cables carrying	40	Amperes, comprised of	7	wires, each	16	S.W.G. diameter,	.020	square inches total sectional area
3 " " "	40	Amperes, comprised of	7	wires, each	18	S.W.G. diameter,	.013	square inches total sectional area
Leads to lamps carrying	7	Amperes, comprised of	1	wires, each	16	S.W.G. diameter,	.004	square inches total sectional area
Cargo 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.

Joints in cables, how made, insulated, and protected Spliced, soldered and taped. Splicing compound, friction tape 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 Metal conduits



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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 Conduits

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

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

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

How are cables carried through beams Metal Conduits through bulkheads, &c. Metal Conduits

How are cables carried through decks Metal Conduits and Stuffing Boxes

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 Wateright Globes and Guards

Where are the main switches and fuses for these lights fitted on Main Switch Board

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, 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 Special Castight Globes & 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 <sup>1000 ft.</sup> ~~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.

Johns Wm Saunders Const Co Electrical Engineers Date Feb. 28, 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	in binnacle of <del>feet from</del> standard compass	in binnacle of <u>feet</u> 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.

Johns Wm Saunders Const Co Builder's Signature. Date Feb. 28, 1921

GENERAL REMARKS.

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

It is submitted ✓ this vessel is eligible for

THE RECORD. Elec Light

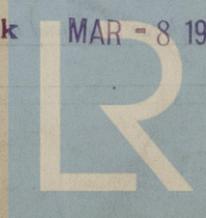
See as per Y.R. No. 13/8/21 \$275.

Wm Saunders  
5/4/21  
Elec Lt

J.A. Yates  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

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