

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 828

Port of Seattle Wash USA Date of First Survey Oct 25 1918 Date of Last Survey April 14 1919 No. of Visits 15  
 No. in on the Steel S. S. "WESTERN KNIGHT" Port belonging to Seattle  
 Reg. Book FIRST ENTRY Built at Seattle By whom Ames Shipbuilding & Drydock Co. When built 1919  
 Owners US Shipping Board & Emergency Fleet Corp Owners' Address \_\_\_\_\_  
 Yard No. 12 Electric Light Installation fitted by Ames SB & DW Co. When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 15 KW. 120 Volt Compound wound direct connected to single cylinder reciprocating steam engine

Capacity of Dynamo 125 Amperes at 120 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine room bottom platform Whether single or double wire system is used Double

Position of Main Switch Board Engine room near Dynamo having switches to groups A.B.C.D.E.F.G of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 2 Engine room 6 & 8 switches. 1 passage way aft deck house 6 switches. 1 passage way forward deck house 6 switches. 1 passage way aft in crew quarters 4 switches. 1 Forecastle 5 switches. 1 Wheel house 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 — 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 220 arranged in the following groups:—

A Forecastle	10	lights each of	25	Watts candle power requiring a total current of	2.50	Amperes		
B Fore deck house	43	lights each of	5-40	" candle power requiring a total current of	9.6	Amperes		
C Aft deck house	42	lights each of	34-40	" candle power requiring a total current of	8.6	Amperes		
D Crew quarters	33	lights each of	25	" candle power requiring a total current of	6.6	Amperes		
E Cargo holds	32	lights each of	100	" candle power requiring a total current of	25.6	Amperes		
F Engine room	35	" "	40	" "	15.4	Amperes		
G Mast head	2	lamps each of	40	" candle power requiring a total current of	.64	Amperes		
	2	Side light with	1	lamps each of	40	" candle power requiring a total current of	.64	Amperes
	8	Cargo lights of 4 light clusters	100	candle power, whether incandescent or are lights	Incandescent			

If arc 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.

Main cable carrying	160	Amperes, comprised of	19	wires, each	.0746	B.S.G. S.W.G. diameter, .08288 square inches total sectional area
Branch cables carrying	50	Amperes, comprised of	7	wires, each	.0485	B.S.G. S.W.G. diameter, .01296 square inches total sectional area
Branch cables carrying	30	Amperes, comprised of	7	wires, each	.0346	B.S.G. S.W.G. diameter, .00815 square inches total sectional area
Leads to lamps carrying	2.0	Amperes, comprised of	1	wires, each	.0641	B.S.G. S.W.G. diameter, .00322 square inches total sectional area
Cargo light cables carrying	2.66	Amperes, comprised of	1	wires, each	.0641	B.S.G. S.W.G. diameter, .00322 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

National Electric Code standard

Joints in cables, how made, insulated, and protected Soldered, taped 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 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 iron conduits and wood mouldings



**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 Salvaged iron Conduits and water-tight fittings

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

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

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

How are cables carried through beams Iron conduits through bulkheads, &c. Iron conduits and fittings

How are cables carried through decks Iron conduits with lock nuts and rubber gaskets

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 Iron conduits with water tight joints

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 —

Where are the main switches and fuses for these lights fitted 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, fixed on Switchboard

**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. C. Irving Chief Engineer for Electrical Engineers Date April 22<sup>nd</sup> 1919

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 103 feet

Distance between dynamo or electric motors and steering compass 95 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>35</u> Amperes	<u>6'-6"</u> feet from standard compass	<u>5</u> feet from steering compass
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.

Arce Shipbuilding Dry Dock Co. Builder's Signature. Date April 22<sup>nd</sup> 1919

**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. Blue Light 12.29/19 James Fowler Surveyor to Lloyd's Register of Shipping.

Committee's Minute Elec. Lt. New York MAY 13 1919

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

56,118.—Transfer.

