

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 403

Port of Seattle Wash Date of First Survey 3<sup>rd</sup> June Date of Last Survey 29<sup>th</sup> August No. of Visits 16  
 No. in Reg. Book 5. S. WESTERN STAR Port belonging to Seattle Wash  
 Built at Seattle Washington USA By whom J. F. DUTHIE CO<sup>r</sup> When built 1918  
 Owners US Shipping Bd & Emergency Fleet Corp<sup>n</sup> Owners' Address Seacrest Bldg Seattle Wash  
 Yard No. 16 Electric Light Installation fitted by G. R. Cooley Coy When fitted 1918

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 General Electric Coy. 10KW. Speed 475 R.P.M. Form C in parallel Engines Single cylinder 6 1/2" x 5" at 80 lbs Steam Pressure  
 Capacity of Dynamo 91 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed On flat at std side of Engine Room Whether single or double wire system is used Double wire  
 Position of Main Switch Board Eng Room Inboard from generator having switches to groups of lights, etc., as below  
 Positions of auxiliary switch boards and numbers of switches on each Forecastle Cabt of 4 circuits. Fore Bridge Deck house Cabt of 4 circuits. Upper Eng Room Cabt 3 panels of 6 circuits each. Lower Eng Room Cabt 6 circuits. aft Crew quarters Passage Cabt 4 circuits. Box 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 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 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 no wire fuses  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Slate panels in steel cabinets

Total number of lights provided for 164 arranged in the following groups :-

A Forecastle Cabt	16 lights each of 40 Watts	candle power requiring a total current of	64 Watt	Amperes
B Fore Bridge Deck House	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 " "	33 lights each of 40 "	candle power requiring a total current of	1320 "	Amperes
E aft Crew quarters	23 lights each of 40 "	candle power requiring a total current of	920 "	Amperes
F Wheel House Cabt	10 " " " 40+20 "	" " " " " "	320 "	
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 lamps each		candle power, whether incandescent or arc lights		<u>Incandescent</u>

If arc lights, what protection is provided against fire, sparks, etc. Conductors in conduit + switches + fuses in steel cabinets

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

## DESCRIPTION OF CABLES.

Main cable carrying 90 Amperes, comprised of 7 wires, each 0.1400 S.W.G. diameter, 135.100 <sup>1.39 CM</sup> square inches total sectional area  
 Branch cables carrying 100 Amperes, comprised of 7 wires, each 0.0733 S.W.G. diameter, 41.92 <sup>0.1365 CM</sup> square inches total sectional area  
 Branch cables carrying 40 Amperes, comprised of 7 wires, each 0.0485 S.W.G. diameter, 16.509 <sup>0.0211 CM</sup> square inches total sectional area  
 Leads to lamps carrying 5 Amperes, comprised of 1 wires, each 4.106 S.W.G. diameter, 4.106 <sup>0.0102 CM</sup> square inches total sectional area  
 Cargo light cables carrying 8 Amperes, comprised of 1 wires, each 4.106 S.W.G. diameter, 4.106 <sup>0.0102 CM</sup> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber covered wire fused in all cabinets throughout the ship except in fore Bridge house where No. 14 R.C. wire is run in mouldings & piping

Joints in cables, how made, insulated, and protected All joints are made mechanically tight and then soldered and taped with Rubber + friction tape painted and secured in water tight junction boxes

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 and 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 galleys or oil lamps or other sources of heat Water tight fittings globe & guard

What special protection has been provided for the cables near boiler casings Water tight fittings, globe & guard

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

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

How are cables carried through decks in 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 Plugs are in all such places

Where are the main switches and fuses for these lights fitted in Cabt in upper 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 2, 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. Dunthie Co. C. O. Petherick for Babby Electric Co. Electrical Engineers Date Oct 3/18

COMPASSES.

Distance between dynamo or electric motors and standard compass 110ft approx

Distance between dynamo or electric motors and steering compass 110ft approx

The nearest cables to the compasses are as follows:—

A cable carrying Search light 40 Amperes	8 feet from standard compass	8 feet from steering compass
A cable carrying Meltale Board 7 Amperes	8 feet from standard compass	8 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

The maximum deviation due to electric currents, etc., was found to be nil degrees on various courses in the case of the standard compass and nil degrees on various course in the case of the steering compass.

J. F. Dunthie Co. C. O. Petherick 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

THE RECORD. ELEC. LIGHTING. atlet Bering  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute Elec. Lt New York OCT 15 1918

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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