

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28197

Port of Sunderland Date of First Survey July 15 Date of Last Survey Nov. 10 '21 No. of Visits 6
 No. in on the Steel s/s. "ZENON" Port belonging to La Rochelle, France
 Reg. Book 36036 Built at Sunderland By whom Sunderland S.B. Co. Ltd. When built 1921
 Owners Cie de Nav. d'Orbigny (H. Capelle) Owners' Address 81 Rue Taitbout, Paris, France
 Yard No. 323 Electric Light Installation fitted by Sunderland S.B. Co. Ltd When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

one Standard combined plant consisting of open insulated type Cylinder Engine 8" dia x 6" Stroke direct coupled to Mullipson Compound Wound Dynamo having an output of 125 Amps at 100 Volts at 320 r.p.m.
 Capacity of Dynamo 125 Amperes at 100 Volts, whether continuous or alternating current Direct
 Where is Dynamo fixed Star Side Engine Room Bottom platform Whether single or double wire system is used Double
 Position of Main Switch Board Aft. Engine Room B. Head. having switches to groups A, B, C, D, E & F of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Navigation Tiller Tack Indicator Wheel House 5 Switches
Engine Room Bottom Platform 9 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 100 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 194 arranged in the following groups:—

A ENGINEERS	43	lights each of	40 Watt metal Fil	candle power requiring a total current of	17.2	Amperes
B SALOON & CAPT.	36	lights each of	60 " "	candle power requiring a total current of	21.6	Amperes
C ENGINE ROOM & BOILER ROOM	57	lights each of	40 " "	candle power requiring a total current of	23.6	Amperes
D AFT ACCOMMODATION	36	lights each of	40 " "	candle power requiring a total current of	14.4	Amperes
E NAVIGATION	15	lights each of	16 Carbon Lamps	candle power requiring a total current of	9.3	Amperes
F WIRELESS						
2 Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.5	Amperes
2 Side light with	1	lamps each of	32	candle power requiring a total current of	2.5	Amperes
5		Cargo lights of	500 Watt 1/2 Watt metal Fil	candle power, whether incandescent or are lights	Incandescent	

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

Where are the switches controlling the masthead and side lights placed Navigation Tiller Tack Wheel House.

DESCRIPTION OF CABLES.

Main cable carrying	125	Amperes, comprised of	37	wires, each	16	S.W.G. diameter, .117	square inches total sectional area
Branch cables carrying	21.6	Amperes, comprised of	7	wires, each	18	S.W.G. diameter, .0125	square inches total sectional area
Branch cables carrying	14.4	Amperes, comprised of	7	wires, each	20	S.W.G. diameter, .0070	square inches total sectional area
Leads to lamps carrying	6	Amperes, comprised of	3	wires, each	20	S.W.G. diameter, .0030	square inches total sectional area
Cargo light cables carrying	10	Amperes, comprised of	7	wires, each	20	S.W.G. diameter, .0070	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Arman. Braided Cable through Tunnels, Deck, Engine room, Stokers, Summit, Crew Spaces
 Lead covers Engine room Accdn. for. Para. side & Saloon, Navigation

Joints in cables, how made, insulated, and protected none

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 Arman. Braided Cable through Beam, Gun. after Beam, under main Deck. Hoses in Beam. Bushed Red Fibre. Deck Tiller through Deck



Lloyd's Register
 W043-0189

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 no cable fitted in these places

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Common. Braided

What special protection has been provided for the cables near boiler casings Common. Braided

What special protection has been provided for the cables in engine room Common. Braided

How are cables carried through beams Now drilled - Bushed Red Fibre through bulkheads, &c. Packed Bulk Head Joints

How are cables carried through decks Deck Sides

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 Common. Braided Cable

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 ✓

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 plug Boxes Mast Houses

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 Main 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.

for THE SUNDERLAND SHIPBUILDING CO. LD

COMPASSES.

Distance between dynamo or electric motors and standard compass 118

Distance between dynamo or electric motors and steering compass 108

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>9.3</u>	<u>18</u>	<u>10</u>	<u>10</u>
<u>.56</u>	<u>Lead into</u>	<u>10</u>	<u>10</u>
<u>.56</u>	<u>10</u>	<u>Lead into</u>	<u>10</u>

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 no degrees on any course in the case of the standard compass and no degrees on any course in the case of the steering compass.

for THE SUNDERLAND SHIPBUILDING CO. LD

GENERAL REMARKS.

SECRETARY.

The installation has been satisfactorily fitted in the vessel, tested and found good.

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

Fee £ 13-0-0

Applied for 11th Nov. 1921

Elec. Sign.

24/11/21.

S. Davis.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

