

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27366

Port of SUNDERLAND. Date of First Survey 27/10/18 Date of Last Survey 3/10/18 No. of Visits 3
 No. in on the Iron or Steel War Zephyr Port belonging to London
 Reg. Book SUNDERLAND Built at SUNDERLAND By whom John Priestman & Co When built 1918
 Owners Shipping Controller Owners' Address 9 H. Adams St. When fitted 1918
 Yard No. 266 Electric Light Installation fitted by 9 H. Adams St.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

6 1/2" x 6" Open Vertical Single Cylinder Engine
 Capable of giving 16 1/2 B.H.P. 100 lbs Steam Pressure
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed On Stepping Platform Whether single or double wire system is used Double
 Position of Main Switch Board Near Dynamo having switches to groups A, B, C, D, E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 4 way 5 amp Fusebox in Charroom 4 way
fusebox fixed in Wheelhouse 3 way fusebox in Steering Gear 4 way Fusebox in Deck 2 1/2 way Fusebox
in Steering Gear recess 3 way Fusebox in Cabin 4 way 5 amp Fusebox near Main Board 4 way Fusebox in Steering Gear recess
 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-oxidisable 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 125 arranged in the following groups:—

A	{ 4	lights each of	32 CP	candle power requiring a total current of	Approx 9.5	Amperes
B	{ 54	lights each of	16 (20 watt)	candle power requiring a total current of	" 13	Amperes
C	36	lights each of	16	candle power requiring a total current of	14.5	Amperes
D	30	lights each of	16	candle power requiring a total current of	16.8	Amperes
E	Incandescents	lights each of	-	candle power requiring a total current of	-	Amperes
1	Mast head light with	1 lamps each of	32	candle power requiring a total current of	1.12	Amperes
2	Side light with	1 lamps each of	32	candle power requiring a total current of	2.24	Amperes
5	Cargo lights of	6 x 16		candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. Master Switch & Individual
switches on Flying Bridge
 Where are the switches controlling the masthead and side lights placed See above

DESCRIPTION OF CABLES.

Main cable carrying	100	Amperes, comprised of	19	wires, each	14	S.W.G. diameter,	.094	square inches total sectional area
Branch cables carrying	9.5	Amperes, comprised of	4	wires, each	19	S.W.G. diameter,	.009	square inches total sectional area
Branch cables carrying	13	Amperes, comprised of	4	wires, each	16	S.W.G. diameter,	.022	square inches total sectional area
Leads to lamps carrying	56	Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	3.36	Amperes, comprised of	1	wires, each	16	S.W.G. diameter,	.003	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

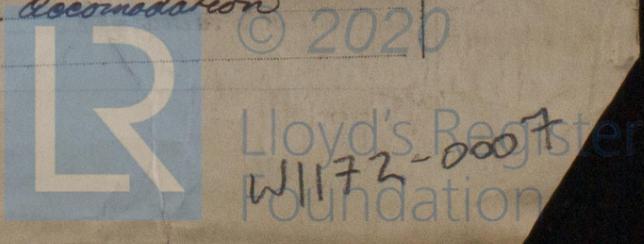
All conductors of ~~H.C.~~ are formed of H.C. conductors (Lunel)
 Insulated with Pure Para Rubber & Vulcanised Rubber Taped & Braided overall.

Joints in cables, how made, insulated, and protected None. Looping system Cased Out.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 None

Are there any joints in or branches from the cable leading from dynamo to main switch board None

How are the cables led through the ship, and how protected Lead covered & clipped up in accommodation elsewhere Uninsured & Braided.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes. Except in holds.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture. *Armaured*
Armaured

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

What special protection has been provided for the cables near boiler casings. *ditto*

What special protection has been provided for the cables in engine room. *ditto*

How are cables carried through beams *Bushed with fibre* through bulkheads, &c. *Stuffing Glands*

How are cables carried through decks. *Iron or Lead Deck. Tubes made Watertight.*

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. *Armaured Braided*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage. *None*

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. *✓*

Cargo light cables, whether portable or permanently fixed. *Portable* How fixed. *W. Y. Locks Connections*

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 *than standard*

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.H.G. *J. H. Holmes, Esq.* Electrical Engineers Date *13/11/18*

COMPASSES.

Distance between dynamo or electric motors and standard compass. *Approx 85 ft.*

Distance between dynamo or electric motors and steering compass. *" 90 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Inside	feet from standard compass	Inside	feet from steering compass
.56					
4.5		12	feet from standard compass	12	feet from steering compass
9.5		15	feet from standard compass	10	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 *2 1/2* degrees on *—* course in the case of the standard compass and *—* degrees on *—* course in the case of the steering compass.

J. H. Holmes Builder's Signature. Date *25 Nov. 1918*

GENERAL REMARKS.

This installation appears to have been fitted in a satisfactory manner and in accordance with the Rules.

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

J.H.G. *W. H. H. H.* 26.11.18. Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Lm. 6. 18.—Transfer