

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 25098

Port of SUNDERLAND. Date of First Survey 9 Mar Date of Last Survey 6 Dec/11 of Visits 4
 No. in Reg. Book on the Iron or Steel Wabana Port belonging to Liverpool
 Built at Sunderland By whom Short Bros. Ltd. When built 1911
 Owners W. Lowden & Co Owners' Address Liverpool
 Yard No. 367 Electric Light Installation fitted by G. Scott Ltd When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo Six Pole protected, and direct coupled to engine on same bed.
 Engine 6 1/2 x 6 Open front, drip lubrication 350 R.P.M.
 Capacity of Dynamo 75 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Bottom Platform. Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board On bulkhead by dynamo having switches to groups five of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Wheel House & Engine Room
Six switches on each board.

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 50% per cent over the normal current
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases Porcelain bridges on Porc. bases

Total number of lights provided for 121 arranged in the following groups:—

A	Engine Room	24 lights each of	16	candle power requiring a total current of	8	Amperes
B	Saloon	47 lights each of	16	candle power requiring a total current of	23.5	Amperes
C	Cargo	36 lights each of	16	candle power requiring a total current of	18	Amperes
D	Navigation	4 lights each of	32	candle power requiring a total current of	4	Amperes
E	Forward	10 lights each of	16	candle power requiring a total current of	5	Amperes
2	Mast head lights with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
2	Side lights with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
6	Cargo lights of	6 - 16		candle power, whether incandescent or arc lights		Incandescent

If arc lights, what protection is provided against fire, sparks, &c. —
 Where are the switches controlling the masthead and side lights placed In Wheel House

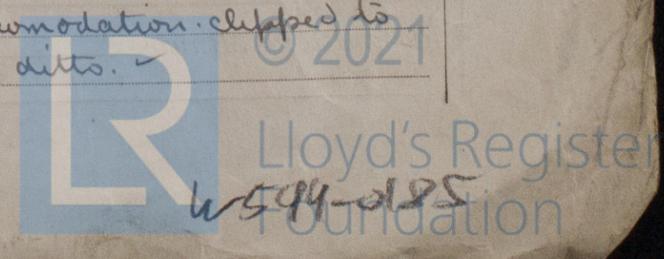
DESCRIPTION OF CABLES.

Main cable carrying 61.5 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .093 square inches total sectional area
 Branch cables carrying 23.5 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .033 square inches total sectional area
 Branch cables carrying 18 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022 square inches total sectional area
 Leads to lamps carrying 4 Amperes, comprised of 7 wires, each 22 L.S.G. diameter, .004 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 110 wires, each 36 L.S.G. diameter, .005 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In Engine Room Insulated with pure rubber, taped and vulcanised, braided and armoured with galv iron wires.
 In holds. One wire in galv iron pipes. For accommodation. Lead covered with brass clips
 Joints in cables, how made, insulated, and protected No joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 Through holds in piping. Accommodation. clipped to bulkhead. Engine Room ditto.



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 In piping or lead covered. ✓

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

What special protection has been provided for the cables near boiler casings Armoured or piping ✓

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

How are cables carried through beams Insulated with fibre bushes through bulkheads, &c. with glands ✓

How are cables carried through decks Iron deck pipes ✓

Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage yes ✓

If so, how are they protected In heavy iron piping ✓

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 cut outs for these lights fitted —

If in the spaces, how are they specially protected —

Are any switches or cut outs fitted in bunkers No ✓

Cargo light cables, whether portable or permanently fixed Portable ✓ How fixed Watertight plugs & sockets ✓

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 —

The installation is 1-120 supplied with a voltmeter and 1-100 an amperemeter, fixed on switchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 100 ✓ per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2,500 ✓ megohms per statute mile after 24 hours' immersion in seawater.

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.

JAMES SCOTT LIMITED.

E. Dudley

Electrical Engineers

Date 1911

COMPASSES.

Distance between dynamo or electric motors and standard compass 90 ft

Distance between dynamo or electric motors and steering compass 90 ft

The nearest cables to the compasses are as follows:—

A cable carrying	$\frac{1}{2}$	Amperes	<u>2</u>	feet from standard compass	<u>3</u>	feet from steering compass
A cable carrying	$\frac{1}{2}$	Amperes	<u>1</u>	feet from standard compass	<u>4</u>	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 any course in the case of the standard compass and Nil degrees on any course in the case of the steering compass.

FOR SHORT BROTHERS, LIMITED.

Sheehy

Builder's Signature.

Date



GENERAL REMARKS.

MANAGING DIRECTOR.

This installation has been well fitted & ran satisfactorily on trial under steam on full load.

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

W. R. P. R. Williams

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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