

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 25665

Port of SUNDERLAND Date of First Survey 21 Mar Date of Last Survey 15 April 1913 No. of Visits 3
 No. in Reg. Book on the Iron or Steel S.S. "Harewood" Port belonging to London
 Built at Sunderland By whom Jos. L. Thompson & Sons Ltd When built 1913-4 mo.
 Owners Harris & Dixon Ltd. Owners' Address Sunderland Forge & Eng. Co. Ltd. When fitted 1913
 Yard No. 496 Electric Light Installation fitted by

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Standard Combined plant consisting of open type engine, direct coupled to Compound wound Dynamo.
 Capacity of Dynamo 90 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Starboard side Bottom of E.R. Whether single or double wire system is used Double
 Position of Main Switch Board Close to plant having switches to groups Five of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One in chartroom controlling 2 Masthead
2 Side lights and 1 Stern and 2 compasses.

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 No 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 135 arranged in the following groups:—

A	33	lights each of	16	candle power requiring a total current of	18.48	Amperes	
B	19	lights each of	16	candle power requiring a total current of	10.64	Amperes	
C	50	lights each of	16	candle power requiring a total current of	28.00	Amperes	
D	23	lights each of	16	candle power requiring a total current of	12.38	Amperes	
E	10	lights each of	16	candle power requiring a total current of	5.6	Amperes	
2	Mast head light with	1	lamps each of	32 D.F.	candle power requiring a total current of	1.12	Amperes
2	Side light with	1	lamps each of	32 D.F.	candle power requiring a total current of	1.12	Amperes
5	Cargo lights of	5 x 32		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 Chartroom.

DESCRIPTION OF CABLES.

Main cable carrying	75.6	Amperes, comprised of	19	wires, each	16	S.W.G. diameter, .060	square inches total sectional area
Branch cables carrying	28.0	Amperes, comprised of	7	wires, each	18	S.W.G. diameter, .0125	square inches total sectional area
Branch cables carrying	12.38	Amperes, comprised of	7	wires, each	20	S.W.G. diameter, .0070	square inches total sectional area
Leads to lamps carrying	2.24	Amperes, comprised of	1	wires, each	18	S.W.G. diameter, .0018	square inches total sectional area
Cargo light cables carrying	5.6	Amperes, comprised of	1	wires, each	16	S.W.G. diameter, .0032	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In berths etc., Lead covered wire.
 In Engine room etc., Lead covered armoured.
 Mains and Masts, Lead covered armoured.

Joints in cables, how made, insulated, and protected

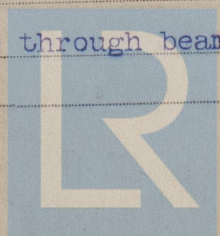
There are none.

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

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 Lead covered armoured cable through beams.

Holes bushed with fibre.



Lloyd's Register
Foundation

W400-0055

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 Lead covered armoured.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered armoured.

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

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

How are cables carried through beams Holes bushed fibre. through bulkheads, &c. W.T. Glands.

How are cables carried through decks W.T. iron deck tubes.

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 Lead covered armoured.

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

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.

per pro THE HENDERLAND FORGE & ENGINEERING CO. LD.

Electrical Engineers

Date 28/4/13.

COMPASSES.

Myun Mar Distance between dynamo or electric motors and standard compass About 88 ft.

Distance between dynamo or electric motors and steering compass About 84 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	led into	feet from standard compass	led into	feet from steering compass
1.12	about 4	feet from standard compass	led into	feet from steering compass	
1.12	led into	feet from standard compass	about 4	feet from steering compass	
2.24	about 8	feet from standard compass	about 6	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 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.

per pro J.L. THOMPSON & SONS, LD.

Norman Thompson

Builder's Signature.

Date 3.5.1913

GENERAL REMARKS.

This installation has been examined as far as could be seen complies with rule requirements examined under working conditions found satisfactory

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

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.