

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 26017

Port of SUNDERLAND. Date of First Survey 16 Feb Date of Last Survey 20 Feb No. of Visits 4  
 No. in Reg. Book on the Iron or Steel S.S. "Batsford" Port belonging to London  
 Built at Sunderland. By whom Messrs J.L. Thompson & Sons Ltd When built 1914  
 Owners Harris & Dixon & Co. Ltd Owners' Address London  
 Yard No. 503 Electric Light Installation fitted by Sunderland Forge & Eng. Co. Ltd. When fitted 1914

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One multipolar compound wound dynamo coupled direct to open type engine.

Capacity of Dynamo 120 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed starboard side bottom 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 chart room controlling two side  
two mast, one stern and one compass.

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

Total number of lights provided for 163 arranged in the following groups:—

A	60	lights each of	16	candle power requiring a total current of	33.6	Amperes
B	13	lights each of	16	candle power requiring a total current of	7.28	Amperes
C	19	lights each of	16	candle power requiring a total current of	10.64	Amperes
D	32	lights each of	16	candle power requiring a total current of	17.92	Amperes
E	39	lights each of	16	candle power requiring a total current of	21.84	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
6	Cargo lights of	5 x 32		candle power, whether incandescent or are 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 chart room

## DESCRIPTION OF CABLES.

Main cable carrying	91.28	Amperes, comprised of	19	wires, each	14	S.W.G. diameter, .094	square inches total sectional area
Branch cables carrying	33.6	Amperes, comprised of	7	wires, each	16	S.W.G. diameter, .022	square inches total sectional area
Branch cables carrying	17.92	Amperes, comprised of	7	wires, each	20	S.W.G. diameter, .007	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. L.C.

In Engine Room etc L.C.A.

Mains V.I.R. masts L.C.A.

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 V.I.R. in iron pipe.

**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 L.C.A.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat L.C.A.

What special protection has been provided for the cables near boiler casings L.C.A.

What special protection has been provided for the cables in engine room L.C.A.

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 V.I.R. in iron pipes.

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 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.

P. PRO THE SUNDERLAND FORGE & ENGINEERING CO. LTD. Electrical Engineers Date 8/1/14

**COMPASSES.**

Distance between dynamo or electric motors and standard compass Director about 100 feet.

Distance between dynamo or electric motors and steering compass about 96 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	led into	feet from steering compass
<u>2.24</u>	<u>4</u>	<u>4</u>	<u>led into</u>	<u>4</u>
<u>2.24</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>
<u>2.24</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</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 710 degrees on any course in the case of the standard compass and 710 degrees on any course in the case of the steering compass.

JOSEPH L. THOMPSON & SONS, Limited

Builder's Signature. Date 2<sup>nd</sup> March 1914

**GENERAL REMARKS.**

This installation as far as could be seen, is fitted in accordance with the requirements of the Rules of this Society Examined under full working conditions & found satisfactory

It is submitted that this vessel is eligible for THE RECORD. Elec. light. J. J. Findlay Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 9.12.—Transfer.



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