

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 26343

Port of Sunderland Date of First Survey 5 Jan Date of Last Survey 14 Aug 15 No. of Visits 3
 No. in Reg. Book on the Iron or Steel S.S. "Indian City" Port belonging to Bideford
 Supp. Built at Sunderland By whom Wm Doxford & Sons Ltd When built 1915
 Owners Inglow & Co Ltd (W.R. Smith & Son) Owners' Address
 Yard No. 471 Electric Light Installation fitted by Sunderland Iron & Eng Co Ltd When fitted 1915

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One multipolar compound wound dynamo coupled direct to open type engine

Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Std. 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 3 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each one in chartroom, controlling 2 masthead
2 side, 2 telegraph, 2 compasses and 1 morse.

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

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 126 arranged in the following groups:—

A	<u>64</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>35.84</u>	Amperes
B	<u>36</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>20.16</u>	Amperes
C	<u>26</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>14.56</u>	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<u>2</u>	Mast head light with <u>1</u> lamps each of	<u>32 d.f.</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
	<u>2</u>	Side light with lamps each of	<u>32 d.f.</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
	<u>5</u>	Cargo lights of	<u>5-16</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. there are none

Where are the switches controlling the masthead and side lights placed in chartroom

DESCRIPTION OF CABLES.

Main cable carrying 70.56 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area
 Branch cables carrying 35.84 Amperes, comprised of 7 wires, each 15 S.W.G. diameter, .028 square inches total sectional area
 Branch cables carrying 20.16 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 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 2.80 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In berths etc., L.C.

In engineroom etc., A & B.

Mains & masts V.I.R. in iron pipe.

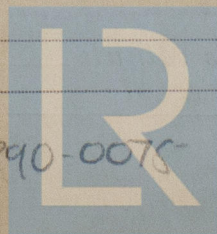
Joints in cables, how made, insulated, and protected

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.



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W890-0075

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 V.I.R. in iron pipe

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

What special protection has been provided for the cables near boiler casings A & B.

What special protection has been provided for the cables in engine room A & B.

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 ☒

If so, how are they protected V.I.R. in iron pipe.

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 no.

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.

P. FRO THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

Electrical Engineers

Date 27/1/15

COMPASSES.

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	<u>2.24</u>	Amperes	<u>about 4</u>	feet from standard compass	<u>about 5</u>	feet from steering compass
A cable carrying	<u>.56</u>	Amperes	<u>led into</u>	feet from standard compass	<u>" 5</u>	feet from steering compass
A cable carrying	<u>.56</u>	Amperes	<u>about 4</u>	feet from standard compass	<u>led into</u>	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 all course in the case of the standard compass and Nil degrees on all course in the case of the steering compass.

WILLIAM DOXFORD & SONS, Limited.

Builder's Signature.

Date

3 Feb 1915

GENERAL REMARKS.

The installation has been satisfactorily fitted in the vessel tested at full load and found good.

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

Lewis Davis.

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

Committee's Minute