

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 25858

Port of Sunderland Date of First Survey 11 Sept Date of Last Survey 25 Sept. 13 No. of Visits 3  
 No. in Reg. Book 606 on the Iron or Steel S.S. "Satrap" Port belonging to Newport, N. Wales  
 Built at Sunderland By whom Messrs J. Priestman & Co., When built 1913  
 Owners Trident Line Ltd (Parsons Thomas & Co. Ltd) Owners' Address  
 Yard No. 243 Electric Light Installation fitted by Sunderland Forge & Engineering Co. Ltd When fitted 1913

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Multipolar Compound wound dynamo coupled direct to open type  
 Vertical engine.  
 Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current Continuous ✓  
 Where is Dynamo fixed Starboard recess bottom E.R. Whether single or double wire system is used Double ✓  
 Position of Main Switch Board close to plant having switches to groups Two of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each One in Chartroom controlling 2 Masthead,  
2 Sidelights 1 telegraph and 1 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-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 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 95 arranged in the following groups:—

A	<u>59</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>53.04</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		lights each of		candle power requiring a total current of		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>2</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	<u>2</u> lamps each of	<u>32 D.F.</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
<u>4</u>	Cargo lights of	<u>5 x 16</u>		candle power, whether incandescent or arc lights	<u>incandescent.</u>	

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 53.2 Amperes, comprised of 19 wires, each 18 S.W.G. diameter, .034 square inches total sectional area  
 Branch cables carrying 33.04 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .017 square inches total sectional area  
 Branch cables carrying 20.16 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 2.8 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

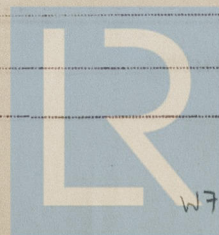
In berths etc., Lead covered.  
 In Engine room etc., Armoured and braided.  
 Mains and masts. V.I.R. in iron pipe.  
 Joints in cables, how made, insulated, and protected

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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**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 Armoured and braided.

What special protection has been provided for the cables near boiler casings Armoured and braided.

What special protection has been provided for the cables in engine room Armoured and braided.

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 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 \_\_\_\_\_

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 No., 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.

PRO THE SUNDERLAND FORGE & ENGINEERING CO. LD.

Electrical Engineers

Date 7/10/13.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass about 64 ft.

Distance between dynamo or electric motors and steering compass \_\_\_\_\_

The nearest cables to the compasses are as follows:—

A cable carrying 2.24 Amperes about 4 feet from standard compass about 5 feet from steering compass

A cable carrying .56 Amperes led into feet from standard compass " 5 feet from steering compass

A cable carrying .56 Amperes about 4 feet from standard compass led into 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.

James Mcintyre Builder's Signature. Date Oct. 10-13

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

Committee's Minute \_\_\_\_\_

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.