

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15/66

Port of Leith Date of First Survey Mar 12<sup>th</sup> 1917 Date of Last Survey 27.3.17 No. of Visits 3  
 No. in Reg. Book on the Iron or Steel S/S "William Poulson" Port belonging to  
 Built at Leith By whom J. Crang & Co., Ltd. When built 1917  
 Owners The Alexandra Towing Co., Ltd. Owners' Address  
 Yard No. 109 Electric Light Installation fitted by H. T. Boothroyd Ltd. When fitted 1917

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo Boothroyd Compound Wound multipolar  
 Engine Robey Single cylinder Vertical Open type  
 Capacity of Dynamo 41 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed In Engine Room Whether single or double wire system is used Double  
 Position of Main Switch Board Near Dynamo having switches to groups Four of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each None Fitted

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 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 fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 54 arranged in the following groups :-  
 A 17 lights each of 16 candle power requiring a total current of 9 Amperes  
 B 19 lights each of 16 candle power requiring a total current of 10 Amperes  
 C 5 lights each of 16 candle power requiring a total current of 2.6 Amperes  
 D 3 lights each of 32 candle power requiring a total current of }  
 E 2 lights each of 16 candle power requiring a total current of } 4.3 Amperes  
3 Mast head light with 1 lamps each of 32 candle power requiring a total current of 3.3 Amperes  
2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.2 Amperes  
One Check Cargo lights of 3 - 32 candle power, whether incandescent or arc lights Incandescent  
 If arc lights, what protection is provided against fire, sparks, &c. None (No arcs fitted)

Where are the switches controlling the masthead and side lights placed In Wheel House

### DESCRIPTION OF CABLES.

Main cable carrying 41 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Branch cables carrying 9 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .007 square inches total sectional area  
 Branch cables carrying 10 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .007 square inches total sectional area  
 Leads to lamps carrying 1/2/2 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 3.3 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .003 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.I.R. taped and braided and armoured over all with galv. steel wire.  
 Joints in cables, how made, insulated, and protected No joints except mechanical ones.  
 Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes 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 Yes  
 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 Protected & armoured and efficiently clipped.



**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 Covering  
or Braiding & Armouring

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

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

What special protection has been provided for the cables in engine room Braiding & Armouring

How are cables carried through beams Lead & Fibre Bushes through bulkheads, &c. Watertight Plates

How are cables carried through decks Galv. deck tubes made watertight.

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 Braiding & Armouring

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 To Watertight Connectors

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.

J. Whitehead Electrical Engineers Date 18 April 1917

**COMPASSES.**

Distance between dynamo or electric motors and standard compass about 55 feet

Distance between dynamo or electric motors and steering compass ditto

The nearest cables to the compasses are as follows:—

A cable carrying	<u>12</u>	Amperes	<u>In Instrument</u>	feet from standard compass	<u>In Instrument</u>	feet from steering compass
A cable carrying	<u>12</u>	Amperes	<u>8</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>10</u>	Amperes	<u>16</u>	feet from standard compass	<u>16</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 — course in the case of the standard compass and — degrees on — course in the case of the steering compass.

John Leonard Co Builder's Signature. Date April 19<sup>th</sup> 1917

**GENERAL REMARKS.**

This installation appears to have been fitted in a satisfactory manner and in accordance with the Rules

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

JWD 23/4/17 W. P. H. H. H.  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Im. 8. 12.—Transfer.