

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 25733

Port of SUNDERLAND. Date of First Survey 11 June Date of Last Survey 23 June No. of Visits 4
 No. in Reg. Book on the Iron or Steel SS "Boogorod" Port belonging to Sunderland.
 Built at Sunderland. By whom Sir J. Laing & Sons Ltd. When built 1913
 Owners Russian Volunteer Fleet Assoc. Owners' Address S. Petersburg
 Yard No. 641 Electric Light Installation fitted by H. Boothroyd & Co. Ltd. When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound wound open type dynamo coupled direct to Robey engine 7 1/2 x 7
 Capacity of Dynamo 132 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room. Whether single or double wire system is used Double
 Position of Main Switch Board adjacent to dynamo having switches to groups _____ of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each _____

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 50% 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 222 arranged in the following groups:—
 A 21 lights each of 5 candle power requiring a total current of 124.6 Amperes
 B 7 lights each of 32 candle power requiring a total current of 8.1 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
2 Mast head lights with 1 lamp each of 32 candle power requiring a total current of 2.3 Amperes
2 Side lights with 1 lamp each of 32 candle power requiring a total current of 2.3 Amperes
25 + 2 are Cargo lights of 16 candle power, whether incandescent or arc lights Incandescent & arc.

If arc lights, what protection is provided against fire, sparks, &c. Glass covers. (external lanterns)
 Where are the switches controlling the masthead and side lights placed Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 46 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .02224 square inches total sectional area
 Branch cables carrying 24 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .00705 square inches total sectional area
 Branch cables carrying 17 Amperes, comprised of 7 wires, each 22 S.W.G. diameter, .004266 square inches total sectional area
 Leads to lamps carrying 7.2 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .007810 square inches total sectional area
 Cargo light cables carrying 15 Amperes, comprised of 110 wires, each 38 S.W.G. diameter, _____ square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains etc. lead covered and armoured.
Room & Branch cables. lead covered and armoured.
Leads to lamps. lead covered only.
 Joints in cables, how made, insulated, and protected by ~~cast~~ Porellan extension with cast iron covers
 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 clips used, galy, and brass in accom

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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 Lead covered and armoured in alleyways, also in tubing in exposed places

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

What special protection has been provided for the cables near boiler casings lead cov. and armoured

What special protection has been provided for the cables in engine room lead cov. and armoured

How are cables carried through beams through bundle of fibre through bulkheads, &c. fibre bundle.

How are cables carried through decks deck tubes

Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected _____

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage _____

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 _____

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 sideboard

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 2500 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.

H. T. BOOTHBY, LIMITED.

H. T. Boothby

Electrical Engineers

Date May 19th 1913

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 _____ Amperes _____	feet from standard compass _____	feet from steering compass _____
A cable carrying _____ Amperes _____	feet from standard compass _____	feet from steering compass _____
A cable carrying _____ Amperes _____	feet from standard compass _____	feet from steering compass _____

Have the compasses been adjusted with and without the electric installation at work at full power _____

The maximum deviation due to electric currents, etc., was found to be _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

J. H. JAMES LAING & SONS, LIMITED.

James Laing

Builder's Signature.

Date _____

GENERAL REMARKS.

The installation has been fitted under special survey, tested under full working conditions and found satisfactory

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

J.W.D. 5/7/13

Lewis Davis

9.7.13

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

Committee's Minute _____

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