

MON 30 JUL 1917

Received at London Office

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11969.

Port of Aberdeen Date of First Survey 12. 4. 17 Date of Last Survey 1. 6. 17 No. of Visits 2
 To. in on the ~~Iron~~ Steel S.S. "Redhall"
 1. Book Built at Aberdeen Port belonging to Aberdeen
 By whom Ball Russell & Co. Ltd. When built 1917
 Owners Aberdeen Coal Co. Ltd. Owners' Address 6 Albert Quay, Aberdeen
 and No. 599 Electric Light Installation fitted by James Thomson, Aberdeen When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single cylinder, open type, double acting engine, direct coupled to a four pole semi enclosed, compound wound dynamo.
 Capacity of Dynamo 19 Amperes at 100 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 in engine room near dynamo having switches to groups — of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each There are 3 D.T. Submain Switches & fuses on main switch board, controlling 3 D.T. distribution boards, 2 situated in engine room, for engine room & deck lights and 1 in Cabin for Cabin lights.
 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
 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 50 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 57 arranged in the following groups:—

38.	lights each of	25.	candle power requiring a total current of	11.4	Amperes
9.	lights each of	50.	candle power requiring a total current of	5.4	Amperes
4.	lights each of	100.	candle power requiring a total current of	2.4	Amperes
✓	lights each of	✓	candle power requiring a total current of	✓	Amperes
✓	lights each of	✓	candle power requiring a total current of	✓	Amperes
✓	Mast head light with	✓ lamps each of	✓	✓	Amperes
✓	Side light with	✓ lamps each of	✓	✓	Amperes
8.	Cargo lights of	45.	candle power requiring a total current of	✓	Amperes

 Are all lights, what protection is provided against fire, sparks, &c. Incandescent and included in groups A.

Where are the switches controlling the masthead and side lights placed —

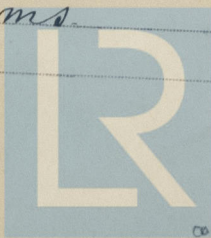
DESCRIPTION OF CABLES.

1 cable carrying	19.2 Amperes, comprised of	3 wires, each	18 S.W.G. diameter, .01246 square inches total sectional area
3 cables carrying	4.2 Amperes, comprised of	3 wires, each	20 S.W.G. diameter, .002994 square inches total sectional area
3 cables carrying	5.4 Amperes, comprised of	3 wires, each	20 S.W.G. diameter, .002994 square inches total sectional area
3 cables to lamps carrying	3 Amperes, comprised of	1 wires, each	18 S.W.G. diameter, .00181 square inches total sectional area
3 light cables carrying	1.8 Amperes, comprised of	1 wires, each	18 S.W.G. diameter, .00181 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wires & cables insulated with pure and vulcanised rubber, taped lead covered and armoured with galvanised iron wires, except in cabins where wires are lead covered only.
 Are there any joints in cables, how made, insulated, and protected no joints in cables.

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
 Are the cables led through the ship, and how protected through pipes attached to beams.



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *except in cargo spaces and bunkers.*
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *lead covered, and armoured.*
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *as above*
 What special protection has been provided for the cables near boiler casings *— — —*
 What special protection has been provided for the cables in engine room *— — —*
 How are cables carried through beams *pipes clipped to beams* through bulkheads, &c. *pipes at deck level*
 How are cables carried through decks *galvanised iron pipes, filled in with pitch.*
 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 *lead covered and armoured, and drawn into 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 *— — —*
 Cargo light cables, whether portable or permanently fixed *fixed.* How fixed *clipped to beams, bulkheads &c.*
 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 main switch board.*

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.

James Thomson Electrical Engineers Date *20th July 1914.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 80 feet.*
 Distance between dynamo or electric motors and steering compass *— — — 70 — —*
 The nearest cables to the compasses are as follows:—
 A cable carrying *.6* Amperes *10* feet from standard compass *4* 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 *yes*.
 The maximum deviation due to electric currents, etc., was found to be *Nil* degrees on *any* course in the case of the standard compass and *Nil* degrees on *any* course in the case of the steering compass.

for HALL, RUSSELL & CO. LTD. Builder's Signature. Date *26th July 1914.*

GENERAL REMARKS.

The various parts of the installation were examined, during the fitting on board, the materials, and workmanship are good, and on completion the light was tried at full power, and everything found satisfactory.

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

Committee's Minute *TUE JUL 31 1917.* *TUE 14 AUG. 1917*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.