

REPORT ON ELECTRIC LIGHTING INSTALLATION. No 11164.

Port of Aberdeen Date of First Survey 24.3.13 Date of Last Survey 30.4.13 No. of Visits 11.
 No. in 164 on the Iron or Steel S.S. South Bulli Port belonging to Sydney. N.S.W.
 Reg. Book 164 Built at Aberdeen By whom Wall Russell & Co. Ltd. When built 1913.
 Owners Bellambi Coal & Co. Ltd. Owners' Address 9. Bridge Street Sydney. N.S.W.
 Yard No. 529 Electric Light Installation fitted by Clarke Chapman & Co. Ltd. When fitted 1913.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 73 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 near dynamo. having switches to groups A B C + D of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required

If cut outs 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 cessel is wired on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes.
 Are the cut outs of non-oxidizable metal Yes. and constructed to fuse at an excess of 50 per cent over the normal current
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases Yes. slate & porcelain.

Total number of lights provided for 112 - 16 cp arranged in the following groups :-

Group	Number of lights	Each of	Candle power	requiring a total current of	Amperes
A	63	16		35.3	
B	27	16		15.1	
C	15	16		8.4	
D	7	16		3.9	
E	—	—		—	
γ	Mast head light with 1 lamp	each of 32		1.1	Amperes
γ	Side light with 1 lamp	each of 32		1.1	Amperes
8	Cargo lights of 6 - 16				incandescent

If are 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 73 Amperes, comprised of 19 wires, each 15 L.S.G. diameter, .07500 square inches total sectional area
 Branch cables carrying 35.3 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .02214 square inches total sectional area
 Branch cables carrying 8.4 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .00700 square inches total sectional area
 Leads to lamps carrying .56 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00781 square inches total sectional area
 Cargo light cables carrying 3.3 Amperes, comprised of 168 wires, each 38 L.S.G. diameter, .00502 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

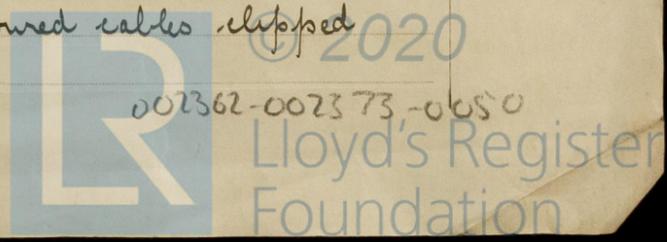
Vulcanized india rubber taped & braided, lead covered twin cables, where exposed steel armoured overall.

Joints in cables, how made, insulated, and protected no joints except mechanical ones.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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. No.

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 Lead covered & steel armoured cables clipped to underside of deck.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible no.

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture lead covered & steel armoured.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat lead covered & armoured

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 in lead bushes through bulkheads, &c. in WT glands

How are cables carried through decks in galvanized iron deck tubes.

Are any cables run through coal bunkers no. 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 & steel armoured.

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 cut outs for these lights fitted —

If in the spaces, how are they specially protected —

Are any switches or cut outs fitted in bunkers no.

Cargo light cables, whether portable or permanently fixed portable How fixed to WTC connection boxes.

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel double wire system

How are the returns from the lamps connected to the hull —

Are all the joints with the hull in accessible positions —

The installation is now supplied with a voltmeter and also an amperemeter, fixed on hatchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas —

Are any switches, cut outs, 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 100 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2,000 megohms per statute mile after 24 hours' immersion in seawater.

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.

For CLARKE, CHAPMAN & Co. LTD,

W. Walker

Electrical Engineers

Date May 27, 1913

COMPASSES.

Distance between dynamo or electric motors and standard compass Chairman 90 ft

Distance between dynamo or electric motors and steering compass 64 "

The nearest cables to the compasses are as follows:—

A cable carrying	.5	Amperes	12	feet from standard compass	6	feet from steering compass
A cable carrying	.5	Amperes	6	feet from standard compass	12	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 all courses in the case of the standard compass and nil degrees on all courses in the case of the steering compass.

James J. Hunter

Builder's Signature.

Date 30th May 1913.

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 found satisfactory.

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

J.W.D.
8/6/13.

Ridley Howell.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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W.D.