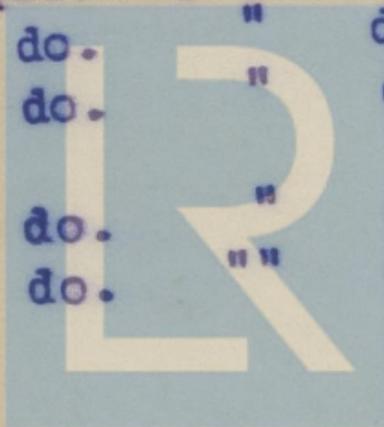


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103	Lights	each of 16 C.P.	requiring a total current of 51.1 amps.	
91	do.	do. do. 16 C.P.	do. do. do. 45.5	do.
110	do.	do. do. 8, 16 C.P.	do. do. do. 53.0	do.
		32 @ 100		
44	do.	do. do. 16 C.P.	do. do. do. 22.0	do.
99	do.	do. do. 16 C.P.	do. do. do. 49.5	do.
52	Fans.		31.0	do.
	Power.	Marconi etc.	50.0	



Lloyd's Register
Foundation

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16/63

Port of Greenock Date of First Survey 21st Oct 1911 Date of Last Survey 16th Dec 1911 No. of Visits 21
 No. in Reg. Book on the Iron or Steel SS "MONTORO" Port belonging to Sydney
 Built at Port Glasgow By whom Glyde Shipbd. & Eng. Co. Ltd. When built 1911
 Owners Burns Philp & Co., Ltd. Owners' Address _____
 Yard No. 296 Electric Light Installation fitted by W. C. Martin & Co When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 single cylinder engines direct coupled to 2 compound wound continuous current multipolar dynamos with carbon brushes.
 Capacity of Dynamos each 300 Amperes at 110 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed starting platform of engine room Whether single or double wire system is used double
 Position of Main Switch Board beside dynamos having switches to groups A. B. C. D. E. F. G. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each No Auxiliary switchboards.

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.

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

Total number of lights provided for 447 arranged in the following groups:—

A	100	lights each of	16	candle power requiring a total current of	57.1	Amperes		
B	91	lights each of	16	candle power requiring a total current of	45.5	Amperes		
C	110	lights each of	8 & 16	candle power requiring a total current of	53	Amperes		
D	44	lights each of	16	candle power requiring a total current of	32	Amperes		
E	99	lights each of	16	candle power requiring a total current of	49.5	Amperes		
F	52 FANLS.	Q. Power, Marconi etc:						
	2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2	Amperes
	2	Side light with	1	lamps each of	32	candle power requiring a total current of	2	Amperes
	8	Cargo lights of	6 lamps of 16	candle power, whether incandescent or are lights	incandescent			

If are lights, what protection is provided against fire, sparks, &c. No Arcs

Where are the switches controlling the masthead and side lights placed Chart House

DESCRIPTION OF CABLES.

Main cable carrying 300 Amperes, comprised of 37 wires, each 12 L.S.G. diameter, .3 square inches total sectional area
 Branch cables carrying 51 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .06 square inches total sectional area
 Branch cables carrying 31 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .033 square inches total sectional area
 Leads to lamps carrying 5 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 108 wires, each _____ L.S.G. diameter, .006 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

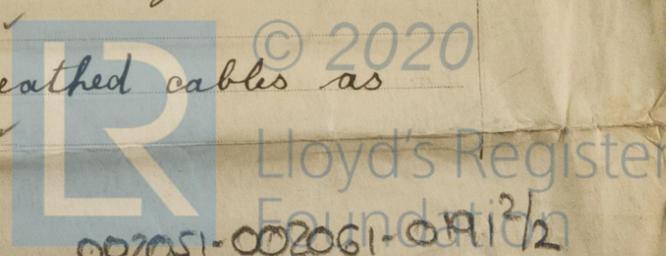
H. b. copper wire tinned, insulated with pure vulcanised rubber tape, the whole vulcanised together & sheathed with lead or steel armour

Joints in cables, how made, insulated, and protected No joints

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

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 or steel sheathed cables as above described clipped openly throughout ship.



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 *Metal tubes or lead sheathing.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *steel armoured.*

What special protection has been provided for the cables near boiler casings *steel armoured.*

What special protection has been provided for the cables in engine room *steel armoured.*

How are cables carried through beams *bushed holes.* through bulkheads, &c. *W. J. Glands.*

How are cables carried through decks *Metal tubes fitted watertight to decks.*

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 *Steel armoured cables protected by beams.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *yes in insulated space.*

If so, how are the lamp fittings and cable terminals specially protected *Strong Iron covers.*

Where are the main switches and cut outs for these lights fitted *In machinery space.*

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 *fibre forks.*

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

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

Are all the joints with the hull in accessible positions _____

The installation is _____ supplied with *2* voltmeter and *two* _____ an amperemeter, fixed on switchboard & Engineers' room.

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 *98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2000* 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.

Installation not completed when vessel left.

W. P. Martin Co. (per J. Croir) Electrical Engineers Date *8th Jan 1912.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *300 ft.*

Distance between dynamo or electric motors and steering compass *300 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>5.5</i>	Amperes	<i>6</i>	feet from standard compass	<i>6</i>	feet from steering compass
A cable carrying	<i>5</i>	Amperes	<i>6</i>	feet from standard compass	<i>6</i>	feet from steering compass
A cable carrying	<i>25</i>	Amperes	<i>1</i>	feet from standard compass	<i>1</i>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *Not on 6 lyde. at Bristol.*

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.

Archibald Welch Director, Builder's Signature. Date *11th Jan 1912.*

GENERAL REMARKS.

The materials and workmanship are good. The installation was not fully completed when the vessel left for Bristol.

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

Committee's Minute. *GLASGOW 16 JAN 1912*
Elec Light



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

15/1/12