

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 31910

Port of Glasgow Date of First Survey 16.8.12 Date of Last Survey 2.10.12 No. of Visits 14
 No. in Reg. Book on the ~~Iron~~ Steel S/S "Diplomat" Port belonging to Liverpool
 Built at Glasgow By whom C. Coumell & Co When built 1912
 Owners J. J. Harrison Owners' Address Liverpool
 Yard No. 347 Electric Light Installation fitted by Campbell & Sherrwood When fitted 1912

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine - Allens, single expansion, open type, double acting, slide valve governor
 Dynamo - Allens - 4 pole, compound wound, armature form wound slotted drum.
 Capacity of Dynamo 150 Amperes at 62 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room, Starboard Side, in Recess above stores. Whether single or double wire system is used Double Single
 Position of Main Switch Board On Bulkhead alongside 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 Navigation distribution board in Chart Room, 6 switches.
Saloon, Pastry - Section box - distribution box - no switches. Eng^{rs} Mess room - distribution box 3 switches
1st passage - dis-box - no switches. Forecastle - dis-box - no switches. Eng Room - dis-box 7 switches.
 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
 Total number of lights provided for 150 arranged in the following groups:-
 A Eng Room & Stokers 38 lights each of 16 candle power requiring a total current of 38 Amperes
 B Eng^{rs} Officers & Aft 33 lights each of 16 candle power requiring a total current of 33 Amperes
 C Saloon, Forecastle & Navigation 39 lights each of 16 candle power requiring a total current of 39 Amperes
 D Cargo & Deck 140 lights each of 16 candle power requiring a total current of 140 Amperes
 E Plus 3-ohm lamps, used alternatively, lights each of — candle power requiring a total current of — Amperes
 1 Mast head light with 1 lamp each of 32 candle power requiring a total current of 2 Amperes
 2 Side lights with 2 lamps each of 32 candle power requiring a total current of 4 Amperes
 8-5 Light. Cargo lights of 16 candle power, whether incandescent or arc lights Plus 3 etc lights.
 If arc lights, what protection is provided against fire, sparks, &c. Carbons enclosed in octagonal glass lantern.

Where are the switches controlling the masthead and side lights placed in Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each N^o 15 L.S.G. diameter, .151 square inches total sectional area
 Branch cables carrying 30-40 Amperes, comprised of 19 wires, each N^o 18 L.S.G. diameter, .0344 square inches total sectional area
 Branch cables carrying 70 Amperes, comprised of 38 wires, each N^o 18 L.S.G. diameter, .068 square inches total sectional area
 Leads to lamps carrying 4 Amperes, comprised of 1 wires, each N^o 16 L.S.G. diameter, .0032 square inches total sectional area
 Cargo light cables carrying 5 Amperes, comprised of 162 wires, each 38 L.S.G. diameter, .005 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wires in Engine Room, Stokers, Bunkers, Galley are Lead covered, armoured & braided, 600Ω grade
 Cables from engine room aft, from Saloon to forecabin and up masthead, lead covered, armoured & braided.
 Cables from Eng. Room to Saloon - vulcanized wire in iron pipe. Cables in accommodation yule: in wood casing.
 Joints in cables, how made, insulated, and protected
13 Joints.

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 bunks, 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 Yes

How are the cables led through the ship, and how protected In Engine Room - Lead covered, armoured & braided.
In accommodation - Vulcanized wire in wood casing.

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 armoured & braided or vulcanized in iron pipe.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Kept clear of heat - same as previous?

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 Ditto.

How are cables carried through beams Through bunched holes (fibre). through bulkheads, &c. ditto

How are cables carried through decks Through deck pipes made thoroughly watertight, projecting at least 15" above deck.

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 No. Yes.

If so, how are the lamp fittings and cable terminals specially protected _____ Cast Iron, heavy fittings.

Where are the main switches and cut outs for these lights fitted _____ In engine room.

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 _____

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

How are the returns from the lamps connected to the hull Wires sweated into brass lugs, bolted to beams.

Are all the joints with the hull in accessible positions There are none.

The installation is _____ supplied with a voltmeter and _____ an amperemeter, fixed on main switch board

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 600. 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.
CAMPBELL & ISHERWOOD, LTD.

Fred. S. Hobbs. Electrical Engineers Date Oct 15th 1912

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	<u>15</u>	Amperes	<u>5</u>	feet from standard compass	<u>5</u>	feet from steering compass
A cable carrying	<u>40</u>	Amperes	<u>5</u>	feet from standard compass	<u>5</u>	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 Both with & without.

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

For **CHARLES CONNELL & CO., Limited.**

William M. Connell Director Builder's Signature. Date _____

GENERAL REMARKS.

All wiring around compasses double wired.

This installation has been fitted on board under special survey - tested under full working conditions

It is submitted that this vessel is eligible for THE RECORD. Elec light 23.10.12

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

Committee's Minute **GLASGOW 22 OCT. 1912**
Elec. light.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.