

REPORT ON ELECTRIC LIGHTING INSTALLATION.

SAT. 25 JUL 1891

No. 7898* Port of Hull Received at London Office _____
 No. in 540 Name of Ship "Lutterworth" Built at Hull When built 1891
 Reg. Book 540 Electric Light Installation fitted by Charles G. ... when fitted 1891

DESCRIPTION OF DYNAMO AND ENGINE.

Horizontal engine, rope drive, continuous rope, with cross over pulley. Dynamo vertical with consecutive poles.
 Capacity of Dynamo 160 Amperes at 55 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Lower part of engine room

LAMPS.—

Is vessel wired on single or double wire system double Total number of lights 114 arranged in the following groups:—

Group	Description	Lights	Each of	Candle power	Requiring a total current of	Amperes
A	Saloon	46	16	16	47	Amperes
B	Midships	30	16	16	32	Amperes
C	Engine Rm	14	16	16	15	Amperes
D	Forecastle	20	16	16	21	Amperes
E	Aft Hold	4	16	16	4	Amperes
1	Mast head light with	3	lamps each of	16	3	Amperes
2	Side light with	3	lamps each of	16	6	Amperes
7	Cargo lights of		16			incandescent

If arc lights, what protection is provided against fire, sparks, &c. _____

SWITCHES AND CUT-OUTS.—

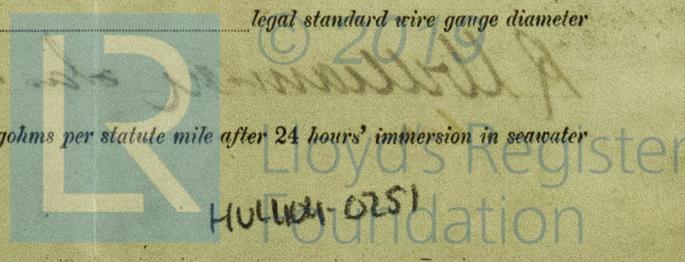
Position of Main Switch Board Engine Rm having switches to groups switch to each circuit of lights as above
 Positions of other switch boards and numbers of switches on each One main switch in steward's room to control saloon lights, Mast H, side lights, and cargo lights are in Mate's room.
 If cut outs are fitted to main circuit Main cut out are on switch board and to each auxiliary circuit Yes.
 and at each position where cable is branched or reduced in size Yes.
 If vessel is wired on the double wire system are cut outs fitted on each wire _____
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 25 per cent over the normal current
 Are all cut outs fitted in easily accessible positions Yes.
 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
 How are the lamps specially protected in places liable to the accumulation of vapour or gas
 Are all switches and cut-outs constructed of unflammable materials and fitted on unflammable bases

DESCRIPTION OF CABLES.—

Description	Amperes	Comprised of	Wires	Each	Gauge Diameter
Main cable carrying	47	19	16	16	legal standard wire gauge diameter
Branch cables carrying	20	7	16	16	legal standard wire gauge diameter
Branch cables carrying	32	19	18	18	legal standard wire gauge diameter
Leads to lamps	1	1	16	16	legal standard wire gauge diameter
Cargo light cables carrying					legal standard wire gauge diameter

The copper used has a conductivity of 98 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



DESCRIPTION OF INSULATION, PROTECTION, &c.—

Insulation of pure rubber & vulcanized rubber Rubber tape coating then vulcanized together & covered with preservative compound
 The wire are further protected in wood casing & lead pipes where necessary
 Joints in cables, how made, insulated, and protected All joints in cables are spliced, soldered, then insulated first with india rubber solution, next 2 layers of pure rubber then 2 layers of prepared tape.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes
 How are cables led throughout the ship Cables are led throughout the ship in yellow pine casing, grooves separating the - and + wires

What special protection has been provided for the cables in open alleyways Wood casing

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

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 decks Brass tubes fitted with seal and through bulkheads through seal plugs.

Are any cables run through coal bunkers No or cargo spaces Yes If so, how are they protected wood casing

Are any lamps fitted in coal bunkers or spaces which may be used for cargo Yes

If so, how are they specially protected an iron shutter covers the lamp when space is used for cargo

Cargo light cables, whether portable or permanently fixed fixed How fixed on a teak base fixed to bulkhead

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

TESTING, &c.—

Has the installation been thoroughly tested to its full capacity during a trial of 6 hours' duration

The insulation resistance of the whole installation was not less than 150,000 ohms

The installation is in engine room. supplied with a voltmeter and Yes an amperemeter, fixed surtek board

General Remarks.

The particulars appear to be in accordance with the Committee suggestions.

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.

Wm Paterson, Cooper Electrical Engineers
W. C. Martin

Date 10th July 1891

COMPASSES.—

Distance between dynamo and standard compass 80 feet

Distance between dynamo and steering compass 70 "

The nearest cables to the compasses are as follows:—

A cable carrying 3 Amperes 6 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 adjusted with light 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.

Builder's Signature Date

A Williamson Surveyor's Signature Date 22 July 1891

