

TUES. FEB 20 1900

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18

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17664

Port of Glasgow Date of First Survey ✓ Date of Last Survey ✓ No. of Visits ✓  
 No. in 580 on the Iron or Steel S.S. "Trent" Port belonging to London  
 Reg. Book 580 Built at Govan Glasgow By whom Messrs R. Napier & Sons When built 1899  
 Owners Royal Mail Steam Packet Co. Owners' Address 1900  
 Yard No. 467 Electric Light Installation fitted by Messrs Siemens Bros & Co Ltd. When fitted 1899

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 Siemens H.B. 15/20 dynamos each coupled direct to a 7x9" Tanquer engine running at 200 Revs per min.

Capacity of Dynamo 162 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed 2 on bottom + 1 on mid platform of main engine room.

Position of Main Switch Board on bottom platform having switches to groups A to G of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

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 vessel 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 100 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 510 arranged in the following groups:—

A <u>94</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>about 58</u>	Amperes
B <u>54</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>34</u>	Amperes
C <u>54</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>46</u>	Amperes
D <u>70</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>42</u>	Amperes
E <u>70</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>41</u>	Amperes
<u>2</u>	Mast head lights with <u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>2 1/2</u>	Amperes
<u>2</u>	Side light with <u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>2 1/2</u>	Amperes

4 Cargo lights of 8-16 cp lamp each candle power, whether incandescent or are lights incandescent

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

Where are the switches controlling the masthead and side lights placed in wheel house

## DESCRIPTION OF CABLES.

Main cable carrying 162 Amperes, comprised of 19 wires, each 12 L.S.G. diameter, .06140 square inches total sectional area  
 Branch cables carrying 34 to 54 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .06113 square inches total sectional area  
 Branch cables carrying 23 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .03435 square inches total sectional area  
 Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .001810 square inches total sectional area  
 Cargo light cables carrying 5 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .00707 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables & wires insulated with pure vulcanized india rubber, taped, braided & coated with preservative compound, laid in well seasoned pine & teak casings and iron pipes.

Joints in cables, how made, insulated, and protected

Generally jointless system.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux yes <sup>where necessary</sup> 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

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 as above described



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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 Iron pipes

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

What special protection has been provided for the cables near boiler casings Iron pipes

What special protection has been provided for the cables in engine room

How are cables carried through beams vulcanized fibre tubes through bulkheads, &c. In special W.I. glands if below water line

How are cables carried through decks In special designed W.I. deck pipes.

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 Iron pipes.

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

If so, how are the lamp fittings and cable terminals specially protected by fittings with C.I. boxes.

Where are the main switches and cut outs for these lights fitted on main deck

If in the spaces, how are they specially protected none

Are any switches or cut outs fitted in bunkers no

Cargo light cables, whether portable or permanently fixed portable How fixed by a suitable T.M. sleeve of ample size

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel by a 3/8" Whitworth brass screw

How are the returns from the lamps connected to the hull yes by 3/8" Whitworth brass screw

Are all the joints with the hull in accessible positions yes.

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 installation is supplied with a voltmeter and three ~~amperemeters~~ fixed on switchboard.

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 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.

FOR SIEMENS BROTHERS & CO. LIMITED.

H. Schorn

Electrical Engineers

Date

Feb 7<sup>th</sup> 1900

COMPASSES.

Distance between dynamo or electric motors and standard compass about 140 ft

Distance between dynamo or electric motors and steering compass " 130 "

The nearest cables to the compasses are as follows:—

A cable carrying <u>about 24</u> Amperes	<u>about 35</u> feet from standard compass	<u>about 25</u> feet from steering compass
A cable carrying <u>" 26</u> Amperes	<u>" 35</u> feet from standard compass	<u>" 25</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 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.

Clarence Jones

Builder's Signature.

Date

14 Feb 1900

GENERAL REMARKS.

The electric lighting of this vessel has been satisfactorily carried out & has been tried under full power.

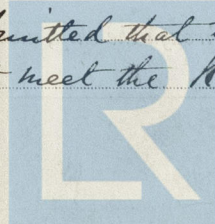
H. Sadler Smith.

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

Committee's Minute

It is submitted that this installation appears to meet the Rule requirements.

all recorded



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.