

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6648

Port of Dundee Date of First Survey 10<sup>th</sup> May Date of Last Survey 11<sup>th</sup> June No. of Visits 4  
 No. in Reg. Book on the ~~Iron~~ Steel Screw Steamer "Faithful" Port belonging to Liverpool  
 Built at Dundee By whom Dundee Shipbuilders Coy When built 1900  
 Owners J. H. Powell & Coy Owners' Address Liverpool  
 Yard No. 131 Electric Light Installation fitted by Messrs Hiley & Orchar When fitted 1900  
21 North Quay St, Dundee

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Capacity of Dynamo 4.5 Amperes at 6.5 Volts, whether continuous or alternating current

Where is Dynamo fixed

Position of Main Switch Board Engine Room having switches to groups A + B of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each switch and cut-out at each lamp.

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 none 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 Yes Wire

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

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 11 - 16 c.p. lamps arranged in the following groups :-

A	<u>Bridge</u>	<u>7</u> lights each of <u>16</u> candle power requiring a total current of <u>6.5</u> Amperes
B	<u>Forecastle</u>	<u>4</u> lights each of <u>16</u> candle power requiring a total current of <u>3.7</u> Amperes
C		lights each of <u>/</u> candle power requiring a total current of <u>/</u> Amperes
D		lights each of <u>/</u> candle power requiring a total current of <u>/</u> Amperes
E		lights each of <u>/</u> candle power requiring a total current of <u>/</u> Amperes
	Mast head light with <u>none</u> lamps each of <u>/</u> candle power requiring a total current of <u>/</u> Amperes	
	Side light with <u>none</u> lamps each of <u>/</u> candle power requiring a total current of <u>/</u> Amperes	

the above are used as Cargo lights of / candle power, whether incandescent or arc lights incandescent

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

Where are the switches controlling the masthead and side lights placed none

**DESCRIPTION OF CABLES.**

Main cable carrying	Amperes, comprised of	wires, each	L.S.G. diameter,	square inches total sectional area
Branch cables carrying	<u>6.5</u> Amperes, comprised of	<u>7</u> wires, each	<u>20</u> L.S.G. diameter,	<u>.0071</u> square inches total sectional area
Branch cables carrying	<u>3.7</u> Amperes, comprised of	<u>7</u> wires, each	<u>20</u> L.S.G. diameter,	<u>.0071</u> square inches total sectional area
Leads to lamps carrying	<u>.93</u> Amperes, comprised of	<u>1</u> wires, each	<u>16</u> L.S.G. diameter,	<u>.0032</u> square inches total sectional area
Cargo light cables carrying	<u>✓</u> Amperes, comprised of	<u>✓</u> wires, each	<u>✓</u> L.S.G. diameter,	<u>✓</u> square inches total sectional area

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

Pure India-rubber, Vulcanizing rubber, rubber coated tape, the whole vulcanized together and covered with braided tarred flax and preservative compound

Joints in cables, how made, insulated, and protected Splined joints, soldered, insulated with pure rubber, rubber tape and insulating varnish.

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

Are there any joints in or branches from the cable leading from dynamo to main switch board

How are the cables led through the ship, and how protected In strong iron pipes

**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible *no; pass through hold and bunker.*  
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *none exposed*  
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *none near sources of heat*  
 What special protection has been provided for the cables near boiler casings *in strong iron pipes*  
 What special protection has been provided for the cables in engine room *iron pipes to switch board.*  
 How are cables carried through beams *none through beams* through bulkheads, &c. *none*  
 How are cables carried through decks *iron pipe*  
 Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*  
 If so, how are they protected *In strong iron pipes*  
 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 *fixed* How fixed   
 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 *3/8" brass screws*  
 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 *also* an amperemeter, fixed *Main switch board.*  
 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 *400* 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.

*Hiley & Orchar* Electrical Engineers Date *21<sup>st</sup> June, 1900.*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *78 ft-*  
 Distance between dynamo or electric motors and steering compass *78 ft-*  
 The nearest cables to the compasses are as follows:— *(cables for cargo lights only)*  

A cable carrying <i>6.5</i> Amperes	<i>19 ft</i> feet from standard compass	<i>12</i> feet from steering compass
A cable carrying <i>10.2</i> Amperes	<i>27.5</i> feet from standard compass	<i>21.75</i> feet from steering compass
A cable carrying <i>—</i> Amperes	<i>—</i> feet from standard compass	<i>—</i> feet from steering compass

 Have the compasses been adjusted with and without the electric installation at work 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.

*J. W. Ellis* Builder's Signature. Date *22<sup>nd</sup> June 1900*

**GENERAL REMARKS.** *This installation so far as fitted, has been carried out in accordance with the Rules, and the materials and workmanship are good and under the vessel eligible in my opinion to have the notation of 'Electric Light' in the Register Book when the work has been completed and examined*  
*Wm Morrison*  
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.