

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No 23070

Port of Hull Date of First Survey Sep 15 Date of Last Survey 7<sup>th</sup> Nov. No. of Visits 17.  
 No. in Reg. Book 726 on the ~~Iron~~ Steel Sc. Sr. Blackburn Port belonging to Grimsby  
 Built at Hull By whom Messrs Earle's & Co When built 1910  
 Owners Great Central Railway Owners' Address Grimsby  
 Yard No. 568 Electric Light Installation fitted by Messrs Clarke Chapman & Co When fitted 1910

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

Continuous current compound wound dynamo, coupled direct to a single cyl double acting open type vertical engine.  
 Capacity of Dynamo 273 Amperes at 55 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Engine Room Whether single or double wire system is used double  
 Position of Main Switch Board near dynamo 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 Each light and group of lights, provided with switches as necessary.

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 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. Slate & porcelain

Total number of lights provided for 240 + 2 Cargo lamps arranged in the following groups:—

A	{ 25 lights each of	16 } 200	candle power requiring a total current of	41.5	Amperes
B	{ 24 lights each of	5 } 16	candle power requiring a total current of	39.3	Amperes
C	{ 8 lights each of	5 } 16	candle power requiring a total current of	38.2	Amperes
F	{ 32 lights each of	16 } 16	candle power requiring a total current of	29.5	Amperes
D	{ 27 lights each of	16 } 16	candle power requiring a total current of	30.5	Amperes
E	{ 31 lights each of	16 } 16	candle power requiring a total current of	48.	Amperes
	{ 32 lights each of	16 } 32	candle power requiring a total current of	46	Amperes
2	Mast head light with 1 lamps each of	32	candle power requiring a total current of	2.2	Amperes
2	Side light with 1 lamps each of	32	candle power requiring a total current of	2.2	Amperes
2	Cargo lights of each	200	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. No arc lights fitted

Where are the switches controlling the masthead and side lights placed In 2<sup>nd</sup> Officers room

**DESCRIPTION OF CABLES.**

Main cable carrying 273 Amperes, comprised of 37 wires, each .101 L.S.G. diameter, .3000 square inches total sectional area  
 Branch cables carrying 30 Amperes, comprised of 7 wires, each .14 L.S.G. diameter, .03459 square inches total sectional area  
 Branch cables carrying 7 Amperes, comprised of 7 wires, each .20 L.S.G. diameter, .0070 square inches total sectional area  
 Leads to lamps carrying 1.1 Amperes, comprised of 1 wires, each .18 L.S.G. diameter, .00181 square inches total sectional area  
 Cargo light cables carrying 12 Amperes, comprised of 105 wires, each .0124 L.S.G. diameter, .01246 square inches total sectional area

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

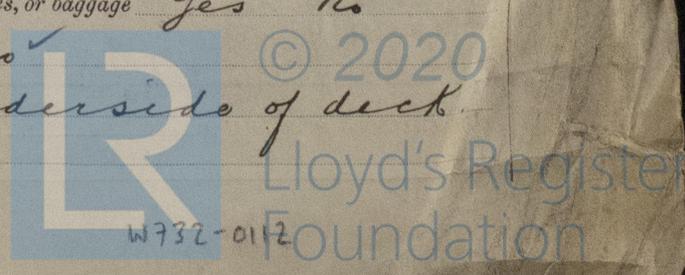
Vulcanised india rubber, taped and braided and lead covered in accommodation. Steel armoured where exposed.

Joints in cables, how made, insulated, and protected No joints except mechanical ones

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 No

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 Clipped to underside of deck lead covered and armoured.



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

Are they in places always accessible *No* ✓

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture. *Lead covered and armoured* ✓

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

What special protection has been provided for the cables near boiler casings *do*

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

How are cables carried through beams *Lead covered cables in bushes* ✓

How are cables carried through bulkheads, &c. *Armoured cables, holes & bushes through bulkheads, &c. watertight glands*

How are cables carried through decks *in galvanised iron deck tubes* ✓

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 *Lead covered and armoured* ✓

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 *Brass guarded fittings* ✓

Where are the main switches and cut outs for these lights fitted *above deck in suitable places* ✓

If in the spaces, how are they specially protected *Metal covers* ✓

Are any switches or cut outs fitted in bunkers *No* ✓

Cargo light cables, whether portable or permanently fixed *Portable* ✓ How fixed *To V.T. Connection Boxes* ✓

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 \_\_\_\_\_

The installation is *now* supplied with a voltmeter and *also* an amperemeter, fixed on *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.

For **CLARKE, CHAPMAN & Co. LTD.**

*W. Woodhouse*

Electrical Engineers

Date *Nov. 10<sup>th</sup> 1910.*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *Directly 80 feet*

Distance between dynamo or electric motors and steering compass *72 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *1/1* Amperes is led into feet from standard compass *and* 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 *Yes*

The maximum deviation due to electric currents, etc., was found to be *Nil* ✓ degrees on *all* ✓ courses in the case of the standard compass and *nil* ✓ degrees on *all* ✓ courses in the case of the steering compass.

Builder's Signature. Date

**GENERAL REMARKS.**

*The Electric Lighting Installation on this vessel has been fitted as above, tested and found satisfactory and is now respectfully submitted for notation in the*

*Register Book at this vessel is eligible for THE RECORD. Elec. light.*

*J.W.D. 15/11/10*

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Lloyd's Register Foundation