

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 22965

Port of *Hull* Date of First Survey *July 8th* Date of Last Survey *14 Jan'y* No. of Visits *20*
 No. in on the *Iron* or Steel *Se. Sx. Darlington* Port belonging to *Hull*
 Reg. Book *169* Built at *Hull* By whom *Messrs Earle's & Co* When built *1910*
 Owners *Nelson & North Eastern Ry Ship'g Co* Owners' Address *Hull*
 Yard No. *567* Electric Light Installation fitted by *Messrs J. Wilson Sons & Co* When fitted *1910*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Four pole compound wound Dynamo by The Brush & Co. coupled direct to a vertical direct acting Engine by Messrs Robey & Co.

Capacity of Dynamo *120* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Starboard side of Eng. 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* 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*

Total number of lights provided for *131* arranged in the following groups:—
 1. *Liquidships* *17 lights* *16* candle power requiring a total current of *8.5* Amperes
 2. *Eng. Room* *30 lights each of* *16* candle power requiring a total current of *16* Amperes
 3. *B. Cargo* *26 lights each of* *16* candle power requiring a total current of *13* Amperes
 4. *Forecastle and* *13 lights each of* *16* candle power requiring a total current of *12.5* Amperes
 5. *Aft. Tunnels* *12 lights each of* *16* candle power requiring a total current of *18* Amperes
 6. *Saloon* *30 lights each of* *16* candle power requiring a total current of *2* Amperes
 7. *Mast head light with* *2 lamps each of* *32* candle power requiring a total current of *2* Amperes
 8. *Side lights with* *2 lamps each of* *32* candle power requiring a total current of *2* Amperes
 9. *4 side lights* *Cargo lights of clusters* *16* candle power, whether incandescent or are lights *incandescent*
 If are lights, what protection is provided against fire, sparks, &c. *No arc light*

Where are the switches controlling the masthead and side lights placed *Chart house*

DESCRIPTION OF CABLES.

Main cable carrying *68* Amperes, comprised of *19* wires, each *16* L.S.G. diameter, *.0612* square inches total sectional area
 Branch cables carrying *18* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *.0225* square inches total sectional area
 Branch cables carrying *12.5* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, *.0226* square inches total sectional area
 Leads to lamps carrying *5* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.00322* square inches total sectional area
 Cargo light cables carrying *13* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *.0225* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

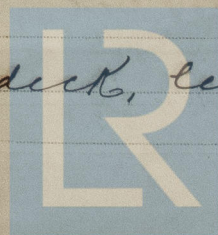
Pure rubber taped, braided, and lead covered in accommodation. Steel armoured where exposed.

Joints in cables, how made, insulated, and protected *None*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 —

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 up under deck, lead covered and armoured.*



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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 & armoured*

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

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 *in holes* through bulkheads, &c. *W. I. glands*

How are cables carried through decks *in galvanised iron pipes*

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 *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 guards, Iron caps*

Where are the main switches and cut outs for these lights fitted *in tween decks*

If in the spaces, how are they specially protected *C. I. boxes*

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

Cargo light cables, whether portable or permanently fixed *portable* How fixed *W. I. sockets*

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 Main Sw. Box*

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.

W. S. Hild

Electrical Engineers

Date *19th Dec 1910*

COMPASSES.

Distance between dynamo or electric motors and standard compass *112 feet*

Distance between dynamo or electric motors and steering compass *105 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *3* Amperes *is led into* feet from standard compass *and into* 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.

This vessel has been fitted with an Electric Lighting Installation as above, now tested found satisfactory and eligible in my opinion to be

It is submitted that this vessel is eligible for THE RECORD. Elec. light. JWD 20/1/11

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.



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