

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 56124

Port of Newcastle Date of First Survey 28 Oct 08 Date of Last Survey 2. Feb. 09 No. of Visits 3  
 No. in 50 on the Iron or Steel BRANTFORD Port belonging to West Hartlepool  
 Reg. Book 50 Built at Howdon on Tyne By whom Messrs Northumberland & Bldg Co When built 1909  
 Owners J. & W. W. & Co Owners' Address \_\_\_\_\_  
 Yard No. 156 Electric Light Installation fitted by Black, Chapman & Co When fitted 1909

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One vertical open type double acting engine direct coupled to a compound wound continuous current dynamo.

Capacity of Dynamo 90 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine room

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 & group of lights fitted with switches as required.

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 and porcelain

Total number of lights provided for 165 arranged in the following groups:—

A	<u>43</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>25.8</u>	Amperes
B	<u>26</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>15.6</u>	Amperes
C	<u>32</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19.2</u>	Amperes
D	<u>34</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>20.4</u>	Amperes
E	<u>30</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>18.0</u>	Amperes
<u>2</u>	<u>Mast head light with</u>	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
<u>2</u>	<u>Side light with</u>	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
<u>Six</u>	<u>Cargo lights of</u>	<u>8-16</u>		candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. None fitted

Where are the switches controlling the masthead and side lights placed in Chartroom

## DESCRIPTION OF CABLES.

Main cable carrying 99 Amperes, comprised of 37 wires, each 16 L.S.G. diameter, .11680 square inches total sectional area

Branch cables carrying 25.8 Amperes, comprised of 4 wires, each 15 L.S.G. diameter, .02803 square inches total sectional area

Branch cables carrying 5.4 Amperes, comprised of 1 wires, each 14 L.S.G. diameter, .00502 square inches total sectional area

Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying 4.8 Amperes, comprised of 176 wires, each 38 L.S.G. diameter, .00507 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized india rubber, taped & braided & lead covered overall, where exposed steel armouring over the lead covering.

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

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 Lead covered & steel armoured securely fastened to underside of deck by galvanized iron clips.

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 Lead covered & armoured

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 beams in lead bushes through bulkheads, &c. in W.T. Glands

How are cables carried through decks in galvanized 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 steel 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 C.I. guarded fittings

Where are the main switches and cut outs for these lights fitted in Crew space

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 portable How fixed to C.I. connection boxes

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Double wire system

How are the returns from the lamps connected to the hull —

Are all the joints with the hull in accessible positions —

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 new supplied with a voltmeter and — an amperemeter, fixed on Switchboard

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. Walker

Chairman

Electrical Engineers

Date March 10<sup>th</sup> 09.

COMPASSES.

Distance between dynamo or electric motors and standard compass 98 feet

Distance between dynamo or electric motors and steering compass 90 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>6</u>	<u>12</u>	<u>6</u>	<u>6</u>
<u>6</u>	<u>6</u>	<u>12</u>	<u>12</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

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 nil degrees on the course in the case of the standard compass and nil degrees on the course in the case of the steering compass.

J. Graham

Builder's Signature.

Date March 25<sup>th</sup> 1909.

GENERAL REMARKS.

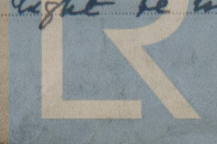
This installation has been tried under working conditions and found satisfactory

J. J. Findlay

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

Committee's Minute

It is submitted that the Record Elec Light be noted in the Reg. Book.



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 11.