

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 49835

Port of Newcastle on Tyne Date of First Survey 1st Nov Pioneer Date of Last Survey Dec 1905 No. of Visits 6
 No. in 25 on the Iron or Steel Ship Port belonging to Manchester
 Reg. Book 25 Built at Low Walker By whom Messrs Wm. Gibson & Co. When built 1905
 Owners Messrs Co-operative Wholesale Society Ltd Owners' Address Manchester
 Yard No. 1105 Electric Light Installation fitted by Messrs. Clarke Chapman & Co. Ltd When fitted 1905

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Single Cylinder vertical double acting engine, direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 44 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed On Starboard side of Engine Room

Position of Main Switch Board near dynamo having switches to groups A. B. C. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each each light is provided with a switch, fitted close to light.

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 67 - 16 cp arranged in the following groups:—

A	<u>15</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>9</u>	Amperes
B	<u>20</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12.6</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>—</u>	lights each of	<u>—</u>	candle power requiring a total current of	<u>—</u>	Amperes
E	<u>—</u>	lights each of	<u>—</u>	candle power requiring a total current of	<u>—</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>2.4</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>2.4</u>	Amperes
<u>3</u>	<u>Cargo lights of each</u>	<u>4-16</u>	candle power, whether incandescent or are lights	<u>incandescent</u>		

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

none fitted.

Where are the switches controlling the masthead and side lights placed

In steering gear house

DESCRIPTION OF CABLES.

Main cable carrying	<u>40.8</u> Amperes, comprised of	<u>19</u> wires, each	<u>16</u> L.S.G. diameter,	<u>.0603</u> square inches total sectional area
Branch cables carrying	<u>19.2</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> L.S.G. diameter,	<u>.0222</u> square inches total sectional area
Branch cables carrying	<u>3.6</u> Amperes, comprised of	<u>1</u> wires, each	<u>14</u> L.S.G. diameter,	<u>.0050</u> square inches total sectional area
Leads to lamps carrying	<u>.6</u> Amperes, comprised of	<u>1</u> wires, each	<u>18</u> L.S.G. diameter,	<u>.0018</u> square inches total sectional area
Cargo light cables carrying	<u>2.4</u> Amperes, comprised of	<u>7</u> wires, each	<u>20</u> L.S.G. diameter,	<u>.0070</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

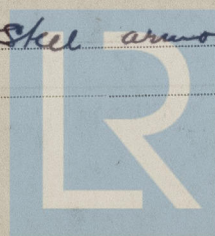
Vulcanized rubber taped & braided with lead covering overall, where exposed, steel armouring over the lead covering.

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 Lead covering & steel armouring, secured by brass clips fixed close up to deck



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 Steel armoured

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

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

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

How are cables carried through beams in lead bushes through bulkheads, &c. in Watertight glands

How are cables carried through decks in galvanized iron watertight 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 & steel armoured & fixed close up to deck

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 Guarded fittings

Where are the main switches and cut outs for these lights fitted in Engineer room

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 in Watertight P.I. 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 now 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.

J. C. Walker

Electrical Engineers

Date 17/1/06

COMPASSES.

Distance between dynamo or electric motors and standard compass 50 feet

Distance between dynamo or electric motors and steering compass do.

The nearest cables to the compasses are as follows:—

Cable	Amperes	Feet from standard compass	Feet from steering compass
A cable carrying <u>.6</u>	<u>6</u>	<u>12</u>	<u>12</u>
A cable carrying <u>.6</u>	<u>12</u>	<u>6</u>	<u>6</u>
A cable carrying <u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

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

William Dobson

Builder's Signature.

Date 15/1/06

GENERAL REMARKS.

The insulation has been examined & found satisfactory.

John H. Heck

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

Committee's Minute

It is submitted that this installation appears to be satisfactory.

Lloyd's Register Foundation

20.1.06

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 14.