

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 53291.

Port of Newcastle Date of First Survey 27th June 07 Date of Last Survey 27th July 07 No. of Visits 6
 No. in Reg. Book 772 on the Iron or Steel S. S. "Löwenburg" Port belonging to London-Bremen
 Built at Low Walker By whom Messrs Swan Hunter & W. Richardson When built 1904
 Owners Deutsche Dampf-fabrik. Ges. Hausa Owners' Address Bremen
 Yard No. 448 Electric Light Installation fitted by Messrs Clark Chapman & Co Ltd. When fitted 1904

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One vertical double acting open type compound Engine Coupled direct to a continuous current compound wound dynamo.
 Capacity of Dynamo 120 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine room, Bottom platform 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 & groups 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 & porcelain
 Total number of lights provided for 130 arranged in the following groups:—

A	<u>45</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>24.5</u>	Amperes
B	<u>36</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19.6</u>	Amperes
C	<u>20</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>11</u>	Amperes
D	<u>29</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>15.8</u>	Amperes
E	<u>1-20" Projector</u>	lights each of	<u>20,000</u>	candle power requiring a total current of	<u>60</u>	Amperes
	<u>2</u>	Mast head light with <u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.2</u>	Amperes
	<u>2</u>	Side light with <u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.2</u>	Amperes
	<u>8</u>	Cargo lights of each <u>5-16</u>		candle power, whether incandescent or arc lights <u>incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. 2-15 Ampere lamps totally enclosed in hexagonal clear glass lanterns.
 Where are the switches controlling the masthead and side lights placed In chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 120 Amperes, comprised of 34 wires, each 15 L.S.G. diameter, .1500 square inches total sectional area
 Branch cables carrying 19.6 Amperes, comprised of 4 wires, each 16 L.S.G. diameter, .02214 square inches total sectional area
 Branch cables carrying 11 Amperes, comprised of 4 wires, each 18 L.S.G. diameter, .01246 square inches total sectional area
 Leads to lamps carrying 54 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 176 wires, each 38 L.S.G. diameter, .00504 square inches total sectional area

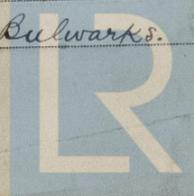
DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized rubber, taped & braided, & lead covered overall, where exposed steel armoured over the lead covering, braided & heavily bitumen compounded overall.
 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 covered, armoured, braided & heavily bitumen compounded, clipped with wrought iron clips to side bulwarks.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible Yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered armoured, braided & heavily bitumen Compounded overall

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

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

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

Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Lead covered & armoured

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 Portable How fixed to watertight 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 —

The installation is now supplied with a voltmeter and also an amperemeter, fixed main switchboard.

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 2000 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. Walker

Director Electrical Engineers

Date Aug 22nd 1907

COMPASSES.

Distance between dynamo or electric motors and standard compass 97 feet.

Distance between dynamo or electric motors and steering compass 90 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>5</u>	Amperes	<u>6</u>	feet from standard compass	<u>3</u>	feet from steering compass
A cable carrying	<u>5</u>	Amperes	<u>3</u>	feet from standard compass	<u>6</u>	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 — course in the case of the standard compass and nil degrees on — course in the case of the steering compass.

J. W. Hunter

Builder's Signature.

Date Sept 1907

GENERAL REMARKS.

The installation examined & found satisfactory.

John H. Heck.

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 Register Books.

Lloyd's Register Foundation

13.9.07

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.