

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7623.

Port of Middlesbrough Date of First Survey 15th Dec. Date of Last Survey 24th Oct. 1912 No. of Visits 12
 No. in 256 on the Iron or Steel S.S. "Harport" Port belonging to Hamburg
 Reg. Book 256 Built at South Shields By whom J. Readhead & Sons When built 1907-11
 Owners Deutsch-Amerikanische Petroleum Owners' Address Hamburg
 Yard No. _____ Electric Light Installation fitted by Smith's Dock Co. Ltd. When fitted 1912

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar Compound Wound Dynamo & Vertical Engine.

Capacity of Dynamo 132 Amperes at 100 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 Engine Room. having switches to groups A.B.C.D.E.F. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required.

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 50 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 155 arranged in the following groups :-

A Forecastle	15 lights each of	16	candle power requiring a total current of	8	Amperes
B Saloon	32 lights each of	16 & 25	candle power requiring a total current of	16	Amperes
C Engine Room	32 lights each of	16	candle power requiring a total current of	17	Amperes
D Engineer's Acc.	34 lights each of	16 & 25	candle power requiring a total current of	16	Amperes
E Pump Room	14 lights each of	16	candle power requiring a total current of	8	Amperes
Navigation	8	5 16 & 32	" " " " " " " "	8	Amperes
2 Mast head light with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
2 Side light with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
18	Cargo lights of	16	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed Wheel house.

DESCRIPTION OF CABLES.

Main cable carrying 44 Amperes, comprised of 37 wires, each 1/14 S.W.G. diameter, .18240 square inches total sectional area
 Branch cables carrying 8 Amperes, comprised of 7 wires, each 1/20 S.W.G. diameter, .007050 square inches total sectional area
 Branch cables carrying 17 Amperes, comprised of 7 wires, each 1/16 S.W.G. diameter, .022400 square inches total sectional area
 Leads to lamps carrying 1/2 Amperes, comprised of 1 wires, each 1/18 S.W.G. diameter, .0018100 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 3 wires, each 1/20 S.W.G. diameter, .0029940 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

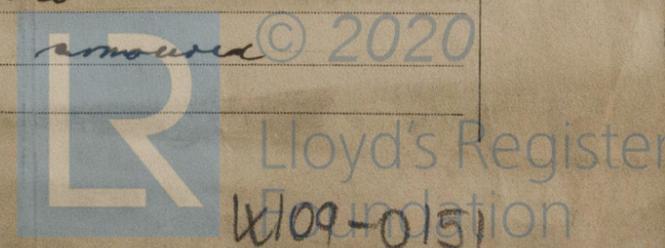
All cables used 2500 Megohm Grade Lead Covered & Served & Lead covered & armoured.

Joints in cables, how made, insulated, and protected No joints.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 and armoured



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

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered through pipes.

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

What special protection has been provided for the cables in engine room Lead covered and armoured

How are cables carried through beams Fibre bushes through bulkheads, &c. Iron pipes, W.T.

How are cables carried through decks Iron pipes, W.T.

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 Cast Iron Deadlights.

Where are the main switches and fuses for these lights fitted Engine Room.

If in the spaces, how are they specially protected ✓

Are any switches or fuses fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Portable. How fixed To ceiling with plug

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 ✓

Is the installation supplied with a voltmeter _____, and with an amperemeter _____, fixed Switchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion No.

How are the lamps specially protected in places liable to the accumulation of vapour or gas Gas tight pipes & fittings

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 2500 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

G. Richmond Electrical Engineers

Date Dec 16th 1912

COMPASSES.

Distance between dynamo or electric motors and standard compass 100 ft.

Distance between dynamo or electric motors and steering compass " "

The nearest cables to the compasses are as follows:—

A cable carrying <u>1/2</u> Amperes <u>1</u> feet from standard compass _____ 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 every course in the case of the standard compass and Nil degrees on every course in the case of the steering compass.

FOR SMITH'S DOCK CO., L
G. A. Green

Builder's Signature. Date _____

GENERAL REMARKS.

This Electric Light Installation has been fitted on board in accordance with the Rules and tried under full working conditions with satisfactory results.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

J. W. D. 9/11/13 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute _____

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

