

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Middlesbrough Date of First Survey while Date of Last Survey building No. of Visits ✓
 No. in Reg. Book S. S. Valegarth on the Iron or Steel S. S. Valegarth Port belonging to Liverpool
S. S. Built at Middlesbrough By whom Sir Raylton Dixon & Co When built 1913
 Owners Rea Shipping Co Ltd Owners' Address Booth, Liverpool
 Yard No. 583 Electric Light Installation fitted by Messrs H. J. Boothroyd & Co. When fitted 1913.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One "Boothroyd" open type dynamo. coupled direct to Shanks 4 1/2 x 4 engine
 Capacity of Dynamo 32 Amperes at 110 Volts, whether continuous or alternating current continuous.
 Where is Dynamo fixed In engine room Whether single or double wire system is used Double.
 Position of Main Switch Board near Dynamo having switches to groups 2 (A.B.). of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each none

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 ✓ 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 50 arranged in the following groups:—

A	<u>3</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>3</u>	Amperes
B	<u>47</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>23.5</u>	Amperes
C		lights each of		candle power requiring a total current of		Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
<u>1</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1</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</u>	Amperes
	Cargo lights of			candle power, whether incandescent or arc lights		

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

Where are the switches controlling the masthead and side lights placed In chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 30-50 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .03483 square inches total sectional area
 Branch cables carrying 30 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .01254 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .00705 square inches total sectional area
 Leads to lamps carrying 5 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .00181 square inches total sectional area
 Cargo light cables carrying — Amperes, comprised of — wires, each — S.W.G. diameter, — square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Branch cables etc. V.I.R. and armoured.

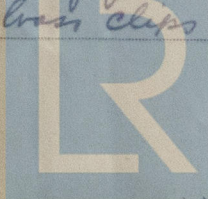
Leads to lamps V.I.R. and lead covered.

Joints in cables, how made, insulated, and protected Porcelain extensions cast iron covers.

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 Galv. Iron armoured. Clips of galv. Iron Lead covered in accom with brass clips



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 V.I.R and armoured.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat V.I.R and armoured

What special protection has been provided for the cables near boiler casings V.I.R and armoured

What special protection has been provided for the cables in engine room V.I.R and armoured.

How are cables carried through beams Fibre bushes through bulkheads, &c. water-tight glands

How are cables carried through decks Galv. deck tubes

Are any cables run through coal bunkers Yes or cargo spaces ✓ or spaces which may be used for carrying cargo, stores, or baggage ✓

If so, how are they protected Steel taped and jute covered.

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 fuses for these lights fitted ✓

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 ✓ How fixed ✓

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 Yes, and with an amperemeter Yes, fixed ✓ Swivelboard

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 ✓

Are any switches, fuses, 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 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 600 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.

H. T. BOOTHROYD, LIMITED.

Electrical Engineers

Date 19 AUG 1913 3 PM

COMPASSES.

Distance between dynamo or electric motors and standard compass 50'

Distance between dynamo or electric motors and steering compass 120'

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
5	6	10	
5	6	10	
—	—	—	

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

FOR SIR RAYLON DIXON & COMPANY, LIMITED.

Builder's Signature.

Date August 20/13

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

John Robson & Co
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.