

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 9339.

Port of Middlesbrough Date of First Survey Whole Date of Last Survey Building No. of Visits  
 No. in Reg. Book on the Iron or Steel S.S. Felimston Port belonging to  
 Built at Stockton By whom Thos Craig Taylor & Co When built 1916  
 Owners Owners' Address  
 Yard No. 170 Electric Light Installation fitted by Thos Falmer & Cross When fitted 1916  
Newcastle-on-Tyne

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

8 1/2" x 7" Open type engine to work with 100 lbs p<sup>r</sup> steam. Coupled direct to 1 compound wound dynamo

Capacity of Dynamo 150 Amperes at 110 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Stairway 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. of lights, &c., as below

Positions of auxiliary fuse boards and numbers of fuses on each 1 x 2 Way in Bathroom, 1 x 10 Way in Chalkroom  
1 x 10 Way in Bathroom, 1 x 7 Way in Mess aft, 1 x 8 Way in Cook's berth, 1 x 4 Way in Engine Room  
1 x 9 " " Engine Room

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 25 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 191 arranged in the following groups:—

A Officers	81	lights each of	16	candle power requiring a total current of	44	Amperes
B Aft.	22	lights each of	"	candle power requiring a total current of	11.4	Amperes
C Engine	51	lights each of	4	candle power requiring a total current of	27.8	Amperes
D Engine Room	37	lights each of	"	candle power requiring a total current of	20.1	Amperes
E Wireless		lights each of (switch only)		candle power requiring a total current of		Amperes
2 Mast head lights with	1 lamp each of	32	candle power requiring a total current of	2.9	Amperes	
2 Side lights with	1 lamp each of	32	candle power requiring a total current of	2.9	Amperes	
5 Cargo lights of	5 x 32	candle power, whether incandescent or arc lights.				Incandescent

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

Where are the switches controlling the masthead and side lights placed Chalkroom

### DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each 15 S.W.G. diameter, .149 square inches total sectional area  
 Branch cables carrying 44 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .046 square inches total sectional area  
 Branch cables carrying 27.8 Amperes, comprised of 7 wires, each 15 S.W.G. diameter, .0182 square inches total sectional area  
 Leads to lamps carrying 5.4 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 5.4 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .0072 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned copper Pure & Vulca J.R. lined braided & compounded  
Lead covered in cabins, Lead covered & armoured elsewhere

Joints in cables, how made, insulated, and protected

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

Are there any joints in or branches from the cable leading from dynamo to main switch board

How are the cables led through the ship, and how protected Lead covered & armoured run through beams & clipped up under deck



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**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible Usually

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered & Announced

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat "

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 Fibre bushes through bulkheads, &c. W. J. glands

How are cables carried through decks Deck holes

Are any cables run through coal bunkers Yes 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 & Announced

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 Portable How fixed W. J. sockets

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 on Main board

**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.

Galeazzo Cravotto Electrical Engineers Date May 15<sup>th</sup> 1916

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 106 ft.

Distance between dynamo or electric motors and steering compass 96 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>14</u>	Amperes	<u>15'</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>'84</u>	Amperes	<u>10</u>	feet from standard compass	<u>1'0</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 nil course in the case of the standard compass and nil degrees on nil course in the case of the steering compass.

John Farthing Builder's Signature. Date 18<sup>th</sup> May, 1916

**GENERAL REMARKS.** This installation has been fitted in accordance with the Rules. The materials and workmanship are good and on completion the installation was tested under full working conditions and found satisfactory.

It is submitted that this vessel is eligible for THE RECORD Elec light. JWD 26/5/16. Wm Morrison Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI. 26 MAY. 1916

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 914—Transfer.

