

REPORT ON ELECTRIC LIGHTING INSTALLATION.

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No. 7966

Port of Middlesbrough Date of First Survey while Date of Last Survey Building No. of VisitsNo. in 11 on the Iron or Steel S.S. CascoBuilt at South Bank, nr. Middlesbrough By whom Smith's Dock Co. Ltd. Port belonging to CardiffOwners Messrs. Neale & Co. When built 1913Yard No. 547 Electric Light Installation fitted by Smith's Dock Co. Ltd. Owners' Address CardiffWhen fitted when building

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar Compound Wound Dynamo & Vertical EngineCapacity of Dynamo 30 Amperes at 100 Volts, whether continuous or alternating current ContinuousWhere is Dynamo fixed Engine Room Whether single or double wire system is used DoublePosition of Main Switch Board Engine Room having switches to groups A.B.C. of lights, &c., as belowPositions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as requiredIf 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 YesIf 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 YesAre the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 50 per cent over the normal currentAre 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 YesAre all switches and fuses constructed of incombustible materials and fitted on incombustible bases YesTotal number of lights provided for 44 arranged in the following groups:—

A Forecastle	10 lights each of	16	candle power requiring a total current of	5	Amperes
B Deck	17 lights each of	32 + 16	candle power requiring a total current of	11 1/2	Amperes
C Aft	17 lights each of	16	candle power requiring a total current of	9	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
3 Mast head light with	1 lamps each of	32	candle power requiring a total current of	3 1/2	Amperes
2 Side light with	1 lamps each of	32	candle power requiring a total current of	2 1/4	Amperes
Cargo lights of	5 lamp each	16	candle power, whether incandescent or arc lights	incandescent	

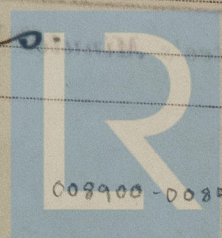
If arc lights, what protection is provided against fire, sparks, &c.

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

DESCRIPTION OF CABLES.

Main cable carrying	25 1/2	Amperes, comprised of	7	wires, each	1/16	S.W.G. diameter, .02214	square inches total sectional area
Branch cables carrying	5	Amperes, comprised of	7	wires, each	1/20	S.W.G. diameter, .00405	square inches total sectional area
Branch cables carrying	11 1/2	Amperes, comprised of	7	wires, each	1/16	S.W.G. diameter, .02214	square inches total sectional area
Leads to lamps carrying	1/2	Amperes, comprised of	8	wires, each	1/32	S.W.G. diameter, .00151	square inches total sectional area
Cargo light cables carrying	2 1/2	Amperes, comprised of	3	wires, each	1/20	S.W.G. diameter, .00306	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables used 600 Megohm Grade Taper Braided & Compound & Taper & Rea CoveredJoints in cables, how made, insulated, and protected NoneAre all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances None 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 NoneAre there any joints in or branches from the cable leading from dynamo to main switch board NoneHow are the cables led through the ship, and how protected Galvanizing in pipes

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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 Calvanzia Iron pipes

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

What special protection has been provided for the cables near boiler casings Calvanzia Iron pipes

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

How are cables carried through beams Iron piping through bulkheads, &c. Iron piping

How are cables carried through decks Iron piping

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

If so, how are they protected Calvanzia Iron pipes

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 Iron piping + Cast Iron fittings

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

If in the spaces, how are they specially protected No

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed W.T. Connection boxes

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 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 ✓

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.

G. Richmond Electrical Engineers

Date 25 June 1913

COMPASSES.

Distance between dynamo or electric motors and standard compass 40 ft

Distance between dynamo or electric motors and steering compass 40 ft

The nearest cables to the compasses are as follows:—

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

Builder's Signature. M. H. H.

Date 25 July 1913

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

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.