Rpt. 13.

TUPS. 28 MAR 1911

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6691

Port of Middlesbrough Date of First Survey 14th Jany Date of Last Survey 4th Mar 1911 No. of Visits 14

No. in Reg. Book 579 on the ~~Iron or~~ Steel S.S. "Barão de Cimeira" Port belonging to Para

Built at Middlesbrough By whom Smith's Dock Co. Ltd. When built 1911

Owners James Pollock, Sons & Co. Ltd. Owners' Address London.

Yard No. 461 Electric Light Installation fitted by Smith's Dock Co. Ltd When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar Compound Wound Dynamo & Vertical Engine.

Capacity of Dynamo 60 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

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 None and at each position where a cable is branched or reduced in size and to each lamp circuit

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

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

A	Deck clusters. 8	lights each of	16	candle power	requiring a total current of	4	Amperes
B	Navigation. 4	lights each of	32	candle power	requiring a total current of	4	Amperes
C	Promenade Deck 43	lights each of	16	candle power	requiring a total current of	23	Amperes
D	Engine Room 13	lights each of	16	candle power	requiring a total current of	7½	Amperes
E	Main Deck 13	lights each of	16	candle power	requiring a total current of	7½	Amperes
F	Forecastle 11	" " "	"	" " " " "	" " "	"	"
	1 Mast head light with 1	lamps each of	32	candle power	requiring a total current of	6½	Amperes
	2 Side light with 2	lamps each of	32	candle power	requiring a total current of	1	Amperes
	2 Cargo lights of 4 lamps each		16	candle power, whether incandescent or arc lights		2	Amperes

Incandescent

If arc lights, what protection is provided against fire, sparks, &c. None.

Where are the switches controlling the masthead and side lights placed Captain's Room.

DESCRIPTION OF CABLES.

Main cable carrying 53 Amperes, comprised of 19 wires, each 1/16 L.S.G. diameter, .060 square inches total sectional area

Branch cables carrying ~~49~~ 6.1 each set Amperes, comprised of 4 wires, each 1/20 L.S.G. diameter, .0070 square inches total sectional area

Branch cables carrying ~~4~~ 2 each set Amperes, comprised of 3 wires, each 1/20 L.S.G. diameter, .0029940 square inches total sectional area

Leads to lamps carrying ½ Amperes, comprised of 1 wires, each 1/16 L.S.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying ~~4~~ 2 each set Amperes, comprised of 3 wires, each 1/20 L.S.G. diameter, .0029940 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All Cables used 2,500 Megohm Grade V.I.R. Taped lead covered & armoured.

Joints in cables, how made, insulated, and protected No Joint Cables connected to Double Pole Distribution Boards.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 None

Are there any joints in or branches from the cable leading from dynamo to main switch board None

How are the cables led through the ship, and how protected Lead covered & armoured & piping.

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 covering. ✓

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

What special protection has been provided for the cables near boiler casings Lead covered & Armoured. ✓

What special protection has been provided for the cables in engine room Lead covered & Armoured. ✓

How are cables carried through beams None. ✓ *through bulkheads, &c.* Iron Piping. ✓

How are cables carried through decks Iron Piping. ✓

Are any cables run through coal bunkers No ✓ *or cargo spaces* No ✓ *or spaces which may be used for carrying cargo, stores, or baggage* No ✓

If so, how are they protected

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage None. ✓

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 —

Cargo light cables, whether portable or permanently fixed Portable ✓ *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 ✓

The installation is *supplied with a voltmeter and* *an amperemeter, fixed* On Main Board ✓

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 2,500 ✓ *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.

G. Richmond *Electrical Engineers* *Date* March 7th 1911.

COMPASSES.

Distance between dynamo or electric motors and standard compass 60 feet.

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 4 *Amperes* 6 *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* the ✓ *course in the case of the standard compass and* *degrees on* *course in the case of the steering compass.*

J Watson *Builder's Signature.* *Date* 8. March-1911

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. JWR 11/4/11

J Kerr

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

Committee's Minute

REPORT FORM No. 1.—2m.34.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.