Rpt. 13.

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 23303

Port of Hull Date of First Survey Oct 27/10 Date of Last Survey Jan 5/11 No. of Visits 19

No. in Reg. Book 1328 on the ~~Iron or~~ Steel Sc. Sr. Built at Hull Port belonging to Grimsby. By whom Messrs Earle's C° Ld When built 1911

Owners Great Central Railway Owners' Address Grimsby

Yard No. 569 Electric Light Installation fitted by Messrs Clark Chapman & C° Ld When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Continuous current compound wound dynamo, coupled direct to a single cylinder double acting open type vertical engine ✓

Capacity of Dynamo 273 Amperes at 55 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine room on starting platform ✓

Position of Main Switch Board Near dynamo ✓ having switches to groups A, B, C, D, E, F, G of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each. Each light, and group of lights provided with switches as necessary ✓

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 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 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. Slate & Porcelain ✓

Total number of lights provided for 240 & 2 cargo lamps arranged in the following groups :—

A	25 lights each of	16 200	candle power requiring a total current of	41·5	Amperes
B	24 25 lights each of	5 16	candle power requiring a total current of	39·3	Amperes
C	8 32 lights each of	5 16	candle power requiring a total current of	38·2	Amperes
F	27 lights each of	16	candle power requiring a total current of	29·5	Amperes
D	28 lights each of	16	candle power requiring a total current of	30·5	Amperes
G	31 1	16 200	candle power requiring a total current of	48·	
E	32 5 lights each of 16 c.p. 32 "		candle power requiring a total current of	46·	Amperes
2	Mast head light with 1 lamps each of	32	candle power requiring a total current of	2·2	Amperes
2	Side light with 1 lamps each of	32	candle power requiring a total current of	2·2	Amperes
2	Cargo lights of each	200	candle power, whether incandescent or arc lights	Incandescent ✓	

If arc lights, what protection is provided against fire, sparks, &c. No arc lights fitted ✓

Where are the switches controlling the masthead and side lights placed In 2nd Officers room. ✓

DESCRIPTION OF CABLES.

Main cable carrying	273 Amperes, comprised of	37	wires, each	·101	L.S.G. diameter,	·3000 ✓	square inches total sectional area
Branch cables carrying	30 Amperes, comprised of	7	wires, each	14	L.S.G. diameter,	·03459 ✓	square inches total sectional area
Branch cables carrying	7 Amperes, comprised of	7	wires, each	20	L.S.G. diameter,	·0070 ✓	square inches total sectional area
Leads to lamps carrying	1·1 Amperes, comprised of	1	wires, each	18	L.S.G. diameter,	·00181 ✓	square inches total sectional area
Cargo light cables carrying	12 Amperes, comprised of	105	wires, each	·0124	L.S.G. diameter,	·01746 ✓	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanised india rubber, taped, braided, and lead covered in accommodation. Steel armoured where exposed. ✓

Joints in cables, how made, insulated, and protected No joints except mechanical ones. ✓

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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. No ✓

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 Clipped to underside of deck, lead covered, and armoured. ✓

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible No ✓

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered and armoured. ✓

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

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

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

How are cables carried through beams Lead covered cables in bushes ✓ Armoured cables, holes not bushed *through bulkheads, &c.* Watertight glands ✓

How are cables carried through decks in galvanished iron deck tubes ✓

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 No ✓ *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 Brass guarded fittings ✓

Where are the main switches and cut outs for these lights fitted above deck in suitable places. ✓

If in the spaces, how are they specially protected Metal covers. ✓

Are any switches or cut outs fitted in bunkers No

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

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 installation is Now ✓ *supplied with a voltmeter and* also ✓ *an amperemeter, fixed* on Switch Board ✓

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 600 ✓ *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.

For CLARKE, CHAPMAN & Co. LTD.

A Walker Chairman *Electrical Engineers* *Date* Janry 23rd 1911.

COMPASSES.

Distance between dynamo ~~or electric motors~~ and standard compass 80 feet

Distance between dynamo ~~or electric motors~~ and steering compass 72 feet

The nearest cables to the compasses are as follows:—

A cable carrying 1·1 *Amperes* is led into *~~feet from~~ standard compass* and *~~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* all *courses in the case of the standard compass and* Nil *degrees on* all *courses in the case of the steering compass.*

Builder's Signature. *Date*

GENERAL REMARKS. This vessel has been fitted with an Electric Lighting Installation as above, tested and found satisfactory, and is now submitted for notation in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. JWR 3/2/11 DRL 3.2.11

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

Committee's Minute

REPORT FORM No. 14.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.