

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 11,290

Port of Glasgow Date of First Survey _____ Date of Last Survey 17 March 1896 No. of Visits 1
 No. in Reg. Book _____ on the Iron or Steel Polycarp Port belonging to Liverpool
 Built at Whiteinch By whom Messrs Barclay & C. Co. When built 1896
 Owners B. & C. Co. Owners Address _____
 Yard No. _____ Electric Light Installation fitted by J. H. Holmes & Co. Newcastle When fitted 1896

DESCRIPTION OF DYNAMO, ENGINE, ETC.

8" x 6" Open Auto engine coupled to
 1 No. 13 Dynamo "Castle" type Compound wound 275 Revs.
 Capacity of Dynamo 110 Amperes at 60 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine room

Position of Main Switch Board Near dynamo 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
1 Switchboard in Eng. room with 11 switches
1 " " " " " 6 "
1 Switchboard Amidships with 6 switches 1 " " Amidships " 4 "

If cut outs are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch boards 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 25 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 Clear verbal instructions given & printed cards.

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 111 arranged in the following groups:—

Group	Description	Number of Lights	Current per Light	Total Current	Candle Power	Notes
A	off	6	16	96	6	Amperes
B	Midships	16	16	256	16	Amperes
C	Truss decks	20	16	320	20	Amperes
D	Cargo	24	16	384	24	Amperes
E	Signals	8	16	128	8	Amperes
F	Engines	37	16	592	37	Amperes
	1 Mast head light with 1 lamp each of	2	32	64	2	Amperes
	2 Side lights with 2 lamps each of	4	32	128	4	Amperes
	4 Cargo lights of	6 + 32				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 _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area
 Branch cables carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area
 Branch cables carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area
 Leads to lamps carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area
 Cargo light cables carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Enamelled copper, pure Para rubber, S. R. proofed tape. The whole vulcanized together & braided & compounded

Joints in cables, how made, insulated, and protected The cables to be joined are first bared & thoroughly cleaned then woven together soldered, to make a strong metallic joint. The joint is then lapped with prepared tape, tinned tape, S. R. strip, S. R. solution &c.

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

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 Strong wood casing Iron pipes in holds



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes except when cargo is in*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *shony wood casing or iron pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Iron sheathed wire*

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. *stuffing boxes or glands*

How are cables carried through decks *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 *---*

If so, how are they protected *In iron pipes*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Cargo spaces*

If so, how are the lamp fittings and cable terminals specially protected *shony iron fittings, with iron covers*

Where are the main switches and cut outs for these lights fitted *Engine room*

If in the spaces, how are they specially protected *---*

Are any switches or cut outs fitted in bunkers *No*

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 *Cable sweat into brass socket which is bolted to hull*

How are the returns from the lamps connected to the hull *Swired round 3/8" brass Whit. screw between 2 washers & screwed tightly to hull*

Are all the joints with the hull in accessible positions *yes*

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 *---* supplied with a voltmeter and *not* an amperemeter, fixed *on main board*

The copper used is guaranteed to have a conductivity of *98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2000* 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.

J. H. Holmes, G. Electrical Engineers Date *March 1906*

COMPASSES.

Distance between dynamo or electric motors and standard compass *48 ft*

Distance between dynamo or electric motors and steering compass *46 ft* *Compass aft 105 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>6</i>	Amperes	<i>8</i>	feet from standard compass	<i>8</i>	feet from steering compass	<i>1 cable 12 amperes 2 1/2 ft distance</i>
A cable carrying	<i>16</i>	Amperes	<i>25</i>	feet from standard compass	<i>23</i>	feet from steering compass	<i>1 cable 2 amperes 8 ft distance</i>
A cable carrying	<i>1</i>	Amperes	<i>2</i>	feet from standard compass	<i>for light at</i>	feet from steering compass	<i>---</i>

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

Wm Maclean Builder's Signature Date *23rd March 1896*

Wm Maclean Managing Director

GENERAL REMARKS. *Examined the above fittings & connections and am of opinion the work has been satisfactorily carried out*

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

Committee's Minute *---* This installation appears to be in accordance with the rules.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ABOVE THIS LINE

REPORT FORM No. 13.