

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28004

Port of Glasgow Date of First Survey 6th July Date of Last Survey 14th Augt No. of Visits 9.
No. in on the ~~Iron or~~ Steel S/S GLENSHIEL Port belonging to Glasgow.
Reg. Book 469. Built at Scotstoun, Glasgow By whom Messrs Charles Connell & Co When built 1909
Owners Messrs James Gardiner & Co Owners' Address 14 St. Vincent Place
Yard No. 328 Electric Light Installation fitted by H. J. Robinson & Co. When fitted 1909

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo Compound wound of multipolar { 4 pole } type, coupled direct to a vertical engine having cylinder $6\frac{1}{2}$ " dia" x 6" stroke at 500 revs

Capacity of Dynamo 100 Amperes at 65 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine-room, starting platform Whether single or double wire system is used Single wire

Position of Main Switch Board " " near dynamo having switches to groups A, B, C, D, E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none

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

Are the cut outs of non-oxidisable metal yes and constructed to fuse at an excess of 90 per cent over the normal current

Are all cut outs fitted in easily accessible positions yes Are the fuses of standard dimensions wire 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 80 arranged in the following groups:—

A 70w cypo 10 lights each of 32 candle power requiring a total current of 18 Amperes

B apt. 10 lights each of " candle power requiring a total current of 18 Amperes

C. Salmon 19 lights each of 16 candle power requiring a total current of 23 Amperes

D Engineers 19 lights each of 16 candle power requiring a total current of 14 Amperes

E Engine Room 18 lights each of 16 candle power requiring a total current of 16 Amperes

Two Mast head lights with 1 lamp each of 32 candle power requiring a total current of included in (C) Amperes

Side lights with 1 lamp each of 32 candle power requiring a total current of " " " Amperes

Four Cargo lights of 160 candle power, whether incandescent or arc lights Incandescent

If arc lights, what protection is provided against fire, sparks, &c. no arc

Where are the switches controlling the masthead and side lights placed In chart-Room

DESCRIPTION OF CABLES.

Main cable carrying 92 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .0956 square inches total sectional area

Branch cables carrying 23 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, 0.225 square inches total sectional area

Branch cables carrying 16 Amperes, comprised of 4 wires, each 14 L.S.G. diameter, .0142 square inches total sectional area

Leads to lamps carrying 186 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying 8.5 Amperes, comprised of 119 wires, each .38 L.S.G. diameter, .00404 square inches total sectional area.

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure India rubber then vulcanising india rubber,
india-rubber coated tape, the whole vulcanised together;
Lead covered in accommodation, Lead lined & armoured elsewhere.

Joints in cables, how made, insulated, and protected *no joints*

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

How are the cables led through the ship, and how protected Under bridge deck along angle iron bar
7 fore & aft. 2300. 2 wires decks above I girder, Lead served & armoured

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes except cargo spaces*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead, covered & armoured in iron pipes.*

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 *Lead covered & armoured*

What special protection has been provided for the cables in engine room *Lead covered & armoured*

How are cables carried through beams *in fibre or lead bushes through bulkheads, &c. W. Y. Glands or Bushes*

How are cables carried through decks *in galv iron pipes bushed with lead or fibre*

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 & armoured*

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 cut outs for these lights fitted *—*

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 *By large brass stud on dynamo pole piece.*

How are the returns from the lamps connected to the hull *By 3/8" brass screw.*

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

The installation is *also* supplied with a voltmeter and *with* an amperemeter, fixed *on Switch 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 *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.

H. J. Poulton & Co

Electrical Engineers

Date *21st August 09*

COMPASSES.

Distance between dynamo or electric motors and standard compass *105 Feet*

Distance between dynamo or electric motors and steering compass *" "*

The nearest cables to the compasses are as follows:—

| | | | | | | |
|------------------|------------|---------|-------------|----------------------------|-------------|----------------------------|
| A cable carrying | <i>23</i> | Amperes | <i>16</i> | feet from standard compass | <i>16</i> | feet from steering compass |
| A cable carrying | <i>1.8</i> | Amperes | <i>5</i> | feet from standard compass | <i>5</i> | feet from steering compass |
| A cable carrying | <i>.86</i> | Amperes | <i>into</i> | feet from standard compass | <i>into</i> | 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 *1/2* degrees on *any* course in the case of the standard compass and *1/2* degrees on *any* course in the case of the steering compass.

CHARLES CONNELL & CO., Limited

Chas. Connell Director

Builder's Signature.

Date *Aug 25th 1909*

GENERAL REMARKS.

This installation has been fitted on board under Special Survey & tested under full working conditions & found satisfactory

Wm Gordon-Munroe

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

Committee's Minute *GLASGOW 31 AUG. 1909*

Elec. light.



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