

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17432

Port of Glasgow Date of First Survey ✓ Date of Last Survey ✓ No. of Visits ✓
 No. in on the Iron Steel S.S. "Adato" Port belonging to Glasgow
 Reg. Book 107 Built at Port. Glasgow By whom W Hamilton & Co When built 1899
 Owners Ocean Navigation Co Owners' Address 102 Hope St. Glasgow
 Yard No. 151 Electric Light Installation fitted by Baker & Coopers & Co. When fitted 1899.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A $12\frac{1}{2} \times 14\frac{3}{4}$ compound wound dynamo, wrought iron magnets, ring armature coupled direct to a $8\frac{1}{2} \times 8$ single cyl vertical enclosed engine running at 300 revs
 Capacity of Dynamo 192 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed on a seating on engine room floor, at starting side of engines.

Position of Main Switch Board outside of engine store having switches to groups 5 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each (a) lower platform of engine room 4 switches
 (b) middle platform 4 switches (c) engineers mess 3 switches (d) saloon pantry 4 switches (e) wheel house 4 switches

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 no

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

Total number of lights provided for 79 arranged in the following groups:—

A	<u>15</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>13.8</u>	Amperes
B	<u>20</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>34</u>	Amperes
C	<u>15</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>13.8</u>	Amperes
D	<u>25</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>23</u>	Amperes
E	<u>4 (signal)</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>7.2</u>	Amperes
<u>One</u>	<u>Mast head light</u>	with <u>1</u>	<u>lamps</u> each of	<u>32</u>	candle power requiring a total current of	<u>Amperes</u>
<u>2</u>	<u>Side light</u>	with <u>1</u>	<u>lamps</u> each of	<u>32</u>	candle power requiring a total current of	<u>Amperes</u>
<u>4</u>	<u>Cargo lights</u>	of	<u>160</u>	candle power, <u>each</u> <u>incandescent</u> <u>or arc</u> lights		

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

Where are the switches controlling the masthead and side lights placed in the wheel house

DESCRIPTION OF CABLES.

Main cable carrying 95 Amperes, comprised of 54 wires, each N°18 L.S.G. diameter, .110 square inches total sectional area

Branch cables carrying 13 to 23 Amperes, comprised of 4 wires, each N°16 L.S.G. diameter, .0229 square inches total sectional area

Branch cables carrying 7.2 Amperes, comprised of 4 wires, each N°20 L.S.G. diameter, .0129 square inches total sectional area

Leads to lamps carrying 9 Amperes, comprised of 1 wires, each N°18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 9 Amperes, comprised of 4 wires, each N°18 L.S.G. diameter, .0129 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated pure & vulcanizing rubber, then braided, the whole vulcanized together & served with special compound

Joints in cables, how made, insulated, and protected wires soldered together resin being used as a flux, insulated with pure rubber tape and strong prepared tape

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. In the engine room in galv'd steel tube
In holds & bunkers in Galv'd iron pipe. in the rooms in casing

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 *Run in galv'd iron pipes*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *kept back as far as possible*

What special protection has been provided for the cables near boiler casings *none near boiler casings*

What special protection has been provided for the cables in engine room *run in steel tubing*

How are cables carried through beams *in teak plugs* through bulkheads, &c. *in iron pipes with flanges*

How are cables carried through decks *in iron pipes with flanges, top of pipe no less than 12' above deck*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *run in galvanized iron gas pipe*

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 *to connections in cast iron 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 supplied with a voltmeter and an amperemeter, fixed *on the switchboard*

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 *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.

Peterson, Cooper & Co
per R.D.L.

Electrical Engineers

Date *14th Nov. 1909*

COMPASSES.

Distance between dynamo or electric motors and standard compass

46'-0"

Distance between dynamo or electric motors and steering compass

47'-0"

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>0.9</i>	<i>1 1/2</i>	<i>4</i>	<i>4</i>
<i>0.9</i>	<i>3 1/2</i>	<i>1</i>	<i>1</i>
<i>1.8</i>	<i>4 1/2</i>	<i>5</i>	<i>5</i>

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *nil* course in the case of the standard compass and *nil* degrees on *nil* course in the case of the steering compass.

Wm. Hamilton & Co

Builder's Signature.

Date

GENERAL REMARKS.

On completion the installation was tried and worked satisfactorily.

Wm. Austin

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

Committee's Minute

It is submitted that this installation appears to be in accordance with the Rules.

29.11.09

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.