

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 34479

of Glasgow Date of First Survey 4/9/14 Date of Last Survey 16/10/14 No. of Visits 7
 on the Iron or Steel 5/5 "RAVEN" Port belonging to London
 Built at Iron By whom Ailsa S. B. Co. Ltd. When built 1914
 The General S. N. Co. Ltd. Owners' Address
 288 Electric Light Installation fitted by W. Auld & Sons, Ayr. When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One $5\frac{1}{2} \times 5$ Single Cylinder Vertical Shanks Engine coupled direct on same bedplate to a Siemens compound wound dynamo having an output of 70 amperes 100 Volts at a speed of 365 R.P.M.

Capacity of Dynamo 70 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Room Starboard Side Whether single or double wire system is used double wire

Position of Main Switch Board Aft Dynamo having switches to groups 7 circuits of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1-4 way Board Crews Quarters. 1-4 way Board Midship Accom.

1-9 Way Board Navigation lights, 1-4 way Board Cargo Holders. 1-4 way Board Tween Decks.

1-4 Way Board Machinery Space, 1-6 way Board Aft Accom. (Local Switches)

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 50 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases Plate and Porcelain bases.

Total number of lights provided for 121 lamps arranged in the following groups:—

A Crews Quarters 14 lights each of 8 & 16 B/P candle power requiring a total current of 7 Amperes

B Midships 14 lights each of 8 & 16 B/P candle power requiring a total current of 8 Amperes

C Navigation 9 lights each of 32 B/P candle power requiring a total current of 10 Amperes

D Cargo 24 lights each of 16 B/P candle power requiring a total current of 13 Amperes

E Tween Decks 12 lights each of 16 B/P candle power requiring a total current of 6 Amperes

F Machinery Space 18 lamps each of 16 B/P candle power requiring a total current of 10 Amperes

G Aft Accom. Side light with 24 lamps each of 8 & 16 B/P candle power requiring a total current of 13 Amperes

Cargo lights of candle power, whether incandescent or arc lights

If arc lights, what protection is provided against fire, sparks, &c. No Arc Lamps.

Where are the switches controlling the masthead and side lights placed Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 67 Amperes, comprised of 19 wires, each 15 S.W.G. diameter, .075 square inches total sectional area

Branch cables carrying 13 Amperes, comprised of 4 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

Branch cables carrying 8 Amperes, comprised of 4 wires, each 20 S.W.G. diameter, .0070 square inches total sectional area

Leads to lamps carrying 2 Amperes, comprised of 3 wires, each 22 S.W.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 13 Amperes, comprised of 4 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Each conductor composed of tinned copper (100 per cent conductivity) insulated with pure and vulcanizing india rubber, taped and the whole vulcanized together. Armoured cable made circular with wadding taped, braided and armoured with galvanized iron wires, braided overall with strong braiding

Joints in cables, how made, insulated, and protected

No joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — Are all joints in accessible positions, none being made in bunks, 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 None.

How are the cables led through the ship, and how protected Galvanized iron tubes & Armoured with galvanized iron wires

Anchor Light (2)

Life Mast
Main Mast
Port & Starboard Side Lights
Riding Light
Stem Light
Green Light

Navigation light comprises

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 In galvanized iron tubes and lead covered cables.

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

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

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

How are cables carried through beams Lead bushes through bulkheads, &c. Brass watertight glands.

How are cables carried through decks Galvanized iron tubes.

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 Armoured with galvanized iron wires.

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 Guarded Bulkhead fittings.

Where are the main switches and fuses for these lights fitted On board in Passage Shelter Deck.

If in the spaces, how are they specially protected No switches & fuses in Cargo Spaces.

Are any switches or fuses fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Portable Cargo Blusters How fixed Portable

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Double wire System.

How are the returns from the lamps connected to the hull _____

Are all the joints with the hull in accessible positions _____

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed on Main Switchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas _____

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 2000 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

Wm. A. Smith & Co.

Electrical Engineers

Date

23/10/14

COMPASSES.

Distance between dynamo or electric motors and standard compass _____

Dynamo 140 feet.

Distance between dynamo or electric motors and steering compass _____

No. 140 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>12</u>	<u>12</u>	<u>12</u>	<u>12</u>
<u>10</u>	<u>12</u>	<u>12</u>	<u>12</u>
<u>10</u>	<u>12</u>	<u>12</u>	<u>12</u>

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 no degrees on any course in the case of the standard compass and no degrees on any course in the case of the steering compass.

AILSA SHIPBUILDING CO., LIMITED

General Manager

Builder's Signature.

Date

26th Nov. 1914.

GENERAL REMARKS.

This installation has been fitted on board in accordance with the Rules, tested under full working conditions, & found satisfactory.

It is submitted that this vessel is eligible for THE RECORD Elec. light.

J. A. D. 3/12/14

H. H. Pilditch

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

Committee's Minute

GLASGOW

1-DEC. 1914

Elec. Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN

Im. 11.13.—Transfer.

1.2.14
30/11/14