

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3723H

Port of _____ Date of First Survey 7th Aug 1917 Date of Last Survey 22nd Oct 1917 No. of Visits 16
 No. in Reg. Book _____ on the ~~Iron~~ or Steel SS Aetor Port belonging to _____
 Built at Glasgow By whom D.W. Henderson & Co. (Ld) When built 1917
 Owners T & J. Harrison Owners' Address Liverpool
 Yard No. 495 Electric Light Installation fitted by Campbell & Isherwood Ltd When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Messrs. W. H. Allen & Sons H. Pole Compound wound Dynamos direct coupled to their open type engine.

Capacity of Dynamo 110 Amperes at 102 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room Whether single or double wire system is used Single
 Position of Main Switch Board ditto having switches to groups 5 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Chart. Room 10 switches
Engine Room (2) 1 of 5 Switches & 1 of 3 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 _____
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 80 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 Yes

Total number of lights provided for 143 arranged in the following groups:—
 A 40 lights each of 20 Watts M.S. candle power requiring a total current of 8 Amperes
 B 34 lights each of 20 Watts M.S. candle power requiring a total current of 6.75 Amperes
 C 39 lights each of 20 Watts M.S. candle power requiring a total current of 7.75 Amperes
 D 30 lights each of 16 C.P. candle power requiring a total current of 15 Amperes
 E Marsconi Mains lights each of 1 1/2 K.W. candle power requiring a total current of _____ Amperes
1 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1.28 Amperes
2 Side light with 2 lamps each of 32 candle power requiring a total current of 2.52 Amperes
6 Cargo lights of each 5-16 candle power, whether incandescent or arc lights Arcs 3 @ 10K

If arc lights, what protection is provided against fire, sparks, &c. Lantern fitted with glass globe
 Where are the switches controlling the masthead and side lights placed Chart. Room

DESCRIPTION OF CABLES.

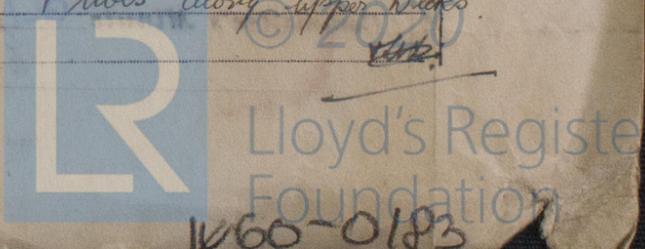
Marsconi Main
 Main cable carrying 110 Amperes, comprised of 34 wires, each 16 S.W.G. diameter, 0.22 square inches total sectional area
 Branch cables carrying 9 Amperes, comprised of 4 wires, each 18 S.W.G. diameter, 0.125 square inches total sectional area
 Branch cables carrying 8.5 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, 0.126 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, 0.018 square inches total sectional area
7 lbs
 Cargo light cables carrying 30 Amperes, comprised of 4 wires, each 14 S.W.G. diameter, 0.318 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Engine Room & Stokehold L.C. & B.
Mains from Engine Room, Fore & Aft L.C. & B.
Cabins V.I.R. in Wood. casings. Bridge L.C.

Joints in cables, how made, insulated, and protected tho. 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 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 _____
 How are the cables led through the ship, and how protected L.C. & B. in galv. Tubes along upper Decks



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 L.C. & L.C. A. & B.

What special protection has been provided for the cables near galley or oil lamps or other sources of heat L.C. A. & B.

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 Ferrules. through bulkheads, &c. Brass glands.

How are cables carried through decks Deck Tubes 15" long water tight.

Are any cables run through coal bunkers Yes. or cargo spaces ~ or spaces which may be used for carrying cargo, stores, or baggage ~

If so, how are they protected L.C. A. & B.

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

If so, how are the lamp fittings and cable terminals specially protected Cast Iron fittings with Lids

Where are the main switches and fuses for these lights fitted Engine Room.

If in the spaces, how are they specially protected ~

Are any switches or fuses fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Both. How fixed Portable to Connection Boxes.

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

How are the returns from the lamps connected to the hull Brass Screws & washers.

Are all the joints with the hull in accessible positions Yes.

Is the installation supplied with a voltmeter Yes. and with an amperemeter Yes. fixed 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 600. 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.

BELL & ISHERWOOD, LTD.

T. R. Peake

Electrical Engineers

Date 29/10/17

COMPASSES.

Distance between dynamo or electric motors and standard compass Approx 140 ft.

Distance between dynamo or electric motors and steering compass 130 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>9</u>	Amperes	<u>10.</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>30.</u>	Amperes	<u>10.</u>	feet from standard compass	<u>10.</u>	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 ~ course in the case of the standard compass and Nil. degrees on ~ course in the case of the steering compass.

DUNN & WILLIAM HENDERSON & CO.

W. Shea

Builder's Signature.

Date 2nd Nov/17.

GENERAL REMARKS.

This installation has been well fitted on board and when examined under full working conditions was satisfactory.

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

JWD
14/11/17.

A. McKeand

Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW** 13 NOV. 1917

Elec. Lights



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.