

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 33900.

Port of Glasgow Date of First Survey 13.3.14 Date of Last Survey 22.4.14 No. of Visits 10
 No. in Reg. Book on the Iron or Steel S/S "Oranian" Port belonging to Liverpool
 Built at Glasgow By whom Napier & Miller Ltd When built 1914
 Owners' Address Johnson & Phillips Ltd
 Yard No. 195 Electric Light Installation fitted by Johnson & Phillips Ltd When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Manufactured by W. H. Allan & Co. Single Cylinder 8" Dia. x 7" Stroke. High Speed direct coupled to continuous current Compound Wound Dynamo.

Capacity of Dynamo 114 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room, Starb. Side Whether single or double wire system is used Single

Position of Main Switch Board Engine Room having switches to groups A, B, C, D of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light and groups of lights are provided with switches as required

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 cessel 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 yes Porcelain

Total number of lights provided for 167 arranged in the following groups:—

A Aft.	48	lights each of	16.	candle power requiring a total current of	20	Amperes
B Saloon	48	lights each of	16.	candle power requiring a total current of	20	Amperes
C Cargo.	30.	lights each of	16.	candle power requiring a total current of	15	Amperes
D Engine Room	34	lights each of	16.	candle power requiring a total current of	17	Amperes
E		lights each of		candle power requiring a total current of		Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	1.2
2	Side light with	1	lamps each of	32	candle power requiring a total current of	1.2
5	Cargo lights of 6 Lights each	16	candle power, whether incandescent or arc lights	Incaudorcent		

If arc lights, what protection is provided against fire, sparks, &c. none fitted

Where are the switches controlling the masthead and side lights placed Wheel House, Upper Bridge

DESCRIPTION OF CABLES.

Main cable carrying 75 Amperes, comprised of 19 wires, each 15 S.W.G. diameter, .045 square inches total sectional area

Branch cables carrying 16 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .0140 square inches total sectional area

Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

Leads to lamps carrying 1.5 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 108 wires, each 36 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized India Rubber, Taped & Braided, where exposed they are Lead Covered & Steel Armoured overall

Joints in cables, how made, insulated, and protected Mechanical Joints Throughout.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 accommodation, wires are incased in wood casing, & other places clipped to under side of Deck, all Lead Covered & armoured to Mastheads in Galv. Pipes

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 Lead Covered & Armoured

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 " " "

How are cables carried through beams Fibre Lead Bushes through bulkheads, &c. Water Tight Glands

How are cables carried through decks in W.I. Galvanized 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 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 fuses for these lights fitted _____

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 Portable How fixed To. C. J. Connector Boxes

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel By Brass Bolt Tapped to Deck

How are the returns from the lamps connected to the hull Tap Screws & Washers Spliced with washer.

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 On 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.

Jeanon Wilson Electrical Engineers Date 25/4/14

COMPASSES.

Distance between dynamo or electric motors and standard compass 128 feet.

Distance between dynamo or electric motors and steering compass 126 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>5</u>	Amperes	<u>10</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>5</u>	Amperes	<u>10</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>3</u>	Amperes	<u>8</u>	feet from standard compass	<u>6</u>	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 None degrees on _____ course in the case of the standard compass and None degrees on _____ course in the case of the steering compass.

John Napier & Miller Ltd Builder's Signature. Date 11th May 1914
John Miller

GENERAL REMARKS.

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

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

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

Committee's Minute GLASGOW 20 MAY 1914
Elec Light

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

5006, 12.—Transfer.

LMA
19/5/14

