

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 75586

Port of Liverpool Date of First Survey October 10th Date of Last Survey October 16th No. of Visits 3
 No. in on the Iron or Steel SS. Mercedes-de-Larinaga Port belonging to Liverpool
 Reg. Book 983 Built at Port Glasgow By whom Russell & Co When built 1902/9
 Owners Miguel de Larinaga SS Co. Ltd. (Larinaga & Co. Ltd.) Owners' Address
 Yard No. Electric Light Installation fitted by Campbell & Isherwood Ltd When fitted Oct/1916

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two sets each consisting of a Vertical Single cylinder, Open type engine direct coupled to a compound wound, protected type dynamo + both mounted on cast iron baseplate.

Capacity of Dynamo 75 Amperes, at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Platform Engine room top Whether single or double wire system is used double
 Position of Main Switch Board Near dynamos having switches to groups six of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One 6 way D.B. in Poultry, one 6 way DB in Engine room + One 4 way D.B. in Engineer's Mess room

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-oxidisable 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 150 approx arranged in the following groups:—

A	10	lights each of	16	candle power requiring a total current of	6	Amperes
B	12	lights each of	16	candle power requiring a total current of	7.2	Amperes
C	12	lights each of	16	candle power requiring a total current of	7.2	Amperes
D	4	lights each of	16	candle power requiring a total current of	2.4	Amperes
E		lights each of		candle power requiring a total current of		Amperes
Mast head light with <u>2</u> lamps each of <u>32</u> candle power requiring a total current of <u>7.2</u> 2.4 Amperes						
Side light with <u>1</u> lamp each of <u>32</u> candle power requiring a total current of <u>7.2</u> 2.4 Amperes						
Cargo lights of <u>—</u> candle power, whether incandescent or arc lights						

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

Where are the switches controlling the masthead and side lights placed Chart room

DESCRIPTION OF CABLES.

Main cable carrying	75	Amperes, comprised of	19	wires, each	16	S.W.G. diameter,	.060	square inches total sectional area
Branch cables carrying	15	Amperes, comprised of	7	wires, each	20	S.W.G. diameter,	.007	square inches total sectional area
Branch cables carrying	15	Amperes, comprised of	7	wires, each	20	S.W.G. diameter,	.007	square inches total sectional area
Leads to lamps carrying	30	Amperes, comprised of	7	wires, each	18	S.W.G. diameter,	.0125	square inches total sectional area
Cargo light cables carrying		Amperes, comprised of		wires, each		S.W.G. diameter,		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized India Rubber Galvanised Wire Armoured + Braided

Joints in cables, how made, insulated, and protected None

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 None

How are the cables led through the ship, and how protected Galvanised wire Armoured + Braided



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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 None so exposed

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Galv. wire Armouring Braided

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

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

How are cables carried through beams Fibre bashed through bulkheads, &c. Glands

How are cables carried through decks deck pipes

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected Galvanised wire Armoured & Braided

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 None How fixed

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

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 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.

Campbell & Isherwood Ltd Booth Electrical Engineers Date Oct 17/16

COMPASSES.

Distance between dynamo or electric motors and standard compass Approx. 80ft.

Distance between dynamo or electric motors and steering compass do.

The nearest cables to the compasses are as follows:—

Cable Carrying	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying <u>30</u>	<u>Approx</u>	<u>15</u> feet from standard compass	<u>15</u> feet from steering compass
A cable carrying <u>5</u>	<u>"</u>	<u>10</u> feet from standard compass	<u>10</u> feet from steering compass
A cable carrying <u>10</u>	<u>"</u>	<u>15</u> feet from standard compass	<u>15</u> feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power No.

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

Builder's Signature. Date

GENERAL REMARKS.

This installation has been fitted under survey and tried under working conditions. Same, in my opinion, is eligible to be recorded in the Register Book.

this vessel is eligible for THE RECORD.

Elec light

B. G. Oxford.

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

Committee's Minute

LIVERPOOL 20 OCT 1916

Electric Light.

JRS



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