

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 13992

Port of New York Date of First Survey 6th June Date of Last Survey 16th June No. of Visits 3
 No. in on the Iron on Steel S.S. "Mar Tirreno" Port belonging to Bilbao
 Reg. Book 395 Built at Bilbao By whom Cia Euskalduna de Constr. When built 1916
 Owners Cia Maritima del Nervion Owners' Address _____
 Yard No. _____ Electric Light Installation fitted by Casey-Waser Electric Co. When fitted June 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo was installed by builders of ship and was in place when we made installation of wiring
 Capacity of Dynamo 65 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed lower engine room Whether single or double wire system is used double
 Position of Main Switch Board lower engine room having switches to groups five of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each fore-castle forward, two - fore-castle aft, two - amidships five.

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 100 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 no wire fuses

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 60 arranged in the following groups:—

A	<u>7</u>	lights each of	<u>20</u>	candle power requiring a total current of	<u>1 3/4</u>	Amperes
B	<u>8</u>	lights each of	<u>20</u>	candle power requiring a total current of	<u>2</u>	Amperes
C	<u>12</u>	lights each of	<u>20</u>	candle power requiring a total current of	<u>3</u>	Amperes
D	<u>20</u>	lights each of	<u>20</u>	candle power requiring a total current of	<u>6 1/2</u>	Amperes
E	<u>9</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>3 1/2</u>	Amperes
<u>Two</u>		Mast head light with <u>one</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>one</u>	Amperes
<u>Two</u>		Side light with <u>one</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>one</u>	Amperes
<u>No</u>		Cargo lights of _____		candle power, whether incandescent or arc lights		

If arc lights, what protection is provided against fire, sparks, &c. _____

Where are the switches controlling the masthead and side lights placed in chart room.

DESCRIPTION OF CABLES.

Main cable carrying 65 Amperes, comprised of 19 wires, each .17 S.W.G. diameter, .046 square inches total sectional area
 Branch cables carrying 10 Amperes, comprised of 7 wires, each .20 S.W.G. diameter, .0070 square inches total sectional area
 Branch cables carrying 5 Amperes, comprised of 7 wires, each .22 S.W.G. diameter, .0042 square inches total sectional area
 Leads to lamps carrying _____ Amperes, comprised of _____ wires, each _____ S.W.G. diameter, _____ 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.

All wires rubber covered except in saloon quarters where lead covered with rubber next to wire is used.

Joints in cables, how made, insulated, and protected Made in water tight junction boxes or lamp fixture boxes or in fittings

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 Iron pipe except in saloon and quarters amidships.

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 Pipe

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

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

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

How are cables carried through beams Pipe through bulkheads, &c. Pipe

How are cables carried through decks Pipe

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 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 None

Where are the main switches and fuses for these lights fitted None

If in the spaces, how are they specially protected None

Are any switches or fuses fitted in bunkers None

Cargo light cables, whether portable or permanently fixed None How fixed None

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel None

How are the returns from the lamps connected to the hull None

Are all the joints with the hull in accessible positions None

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.

Casey, Naser Electric Company Electrical Engineers Date June 25/1917

COMPASSES.

Distance between dynamo or electric motors and standard compass about 100 feet

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	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

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 in accordance with Rule Requirements, tested under working conditions and found in order. The vessel is eligible in my opinion to have installation of Electric Light in the Register Book.

THE RECORD. Elec Light James D. Peat

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

New York JUL 3 1917

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.