

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5587

Port of BILBAO Date of First Survey 3-5-20 Date of Last Survey 14-5-20 No. of Visits 4
 No. in Reg. Book on the ~~Iron or~~ Steel SINGLE SCREW STEAMER "CUERNICA" belonging to SAN SEBASTIAN
 Built at Bilbao By whom SOC. ANO. ASTILLEROS DEL NERVIÓN When built 1920
 Owners CIA AUXILIAR MARITIMA Owners' Address GRAN VIA 42 BILBAO
 Yard No. 15 Electric Light Installation fitted by R. EGUREN ENGINEERS When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

one vertical double acting steam engine made by Messrs. Campbell & Sherrwood Ltd. Liverpool direct coupled to one compound direct current dynamo

Capacity of Dynamo 68 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed on main deck at after end of E.R. Whether single or double wire system is used double

Position of Main Switch Board near dynamo having switches to groups 5 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each circuit is provided with distribution boxes in convenient positions and each light or group of lights is provided with its switch

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 yes

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

Total number of lights provided for 103 arranged in the following groups:—

A. FORE CASTL	14 lights each of 16	candle power requiring a total current of	5.0	Amperes
B. SALOON	20 lights each of 12 of 16 + 8 of 32	candle power requiring a total current of	7.0	Amperes
C. ENGINEERS ROOMS	21 lights each of 16	candle power requiring a total current of	17.5	Amperes
D. ENGINE ROOM	23 lights each of 20 of 16 + 3 of 100	candle power requiring a total current of	10.0	Amperes
E. POOP	5 lights each of 16	candle power requiring a total current of	2.0	Amperes
2 Mast head light with 1 lamps each of 32		candle power requiring a total current of	7.2	Amperes
2 Side light with 1 lamps each of 32		candle power requiring a total current of	7.2	Amperes
4 Cargo lights of 4 lamp each of 16		candle power, whether incandescent or arc lights	incandescent	

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

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

DESCRIPTION OF CABLES.

Main cable carrying	40 Amperes, comprised of	7 wires, each	1.71	mm diameter,	16	mm square inches total sectional area
Branch cables carrying	10 Amperes, comprised of	1 wires, each	2.1	mm diameter,	3.5	mm square inches total sectional area
Branch cables carrying	✓ Amperes, comprised of	✓ wires, each	✓	mm diameter,	✓	mm square inches total sectional area
Leads to lamps carrying	35 Amperes, comprised of	1 wires, each	0.8	mm diameter,	0.5	mm square inches total sectional area
Cargo light cables carrying	1.6 Amperes, comprised of	1 wires, each	1.5	mm diameter,	1.76	mm square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized indian rubber and lead covered, run in galvanized iron pipes

Joints in cables, how made, insulated, and protected no joints except mechanical

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 yes, no

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 lead covered run in galvanized iron pipes led through the centre of the ship and fastened with strong iron clips.

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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 *through galv. iron tubes*

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

What special protection has been provided for the cables near boiler casings *do - do - do*

What special protection has been provided for the cables in engine room *do - do - do*

How are cables carried through beams *through galv. iron tubes* through bulkheads, &c. *do - do - do*

How are cables carried through decks *do - do - do -*

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

If so, how are they protected *through galv. iron tubes*

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 *✓*

Cargo light cables, whether portable or permanently fixed *portable* 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 *main switch board*

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.

R. DE EGUREN, INGENIERO

Electrical Engineers

Date *18 of May 1920*

COMPASSES.

Distance between dynamo or electric motors and standard compass *29 mts*

Distance between dynamo or electric motors and steering compass *28 mts*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>2</i>	<i>16.0</i>	<i>14.0</i>	
<i>5</i>	<i>10.5</i>	<i>6.5</i>	
<i>✓</i>	<i>✓</i>	<i>✓</i>	

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 *mill* degrees on *all* course in the case of the standard compass and *mill* degrees on *all* course in the case of the steering compass.

Builder's Signature.

Date *17th of May 1920*

GENERAL REMARKS. *The electrical installation has been carefully fitted on board and tested with satisfactory results*

It is submitted that

this vessel is eligible for

THE RECORD

ELECTRIC LIGHT

27/5/20

A. de Nareño

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. MAY. 28 1920

FRI. JUL. 14 1922



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