

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 14<sup>th</sup> July 1930 When handed in at Local Office 19 Port of BilbaoNo. in Survey held at Bilbao Date, First Survey June 14<sup>th</sup> Last Survey July 4<sup>th</sup> 1930  
Reg. Book. (Number of Visits 12)on the steamer M.V. "ARTZA MENDI" Tons { Gross 2954.69  
Net 1527.06

Built at Bilbao By whom built La. Enshelduna Yard No. 91 When built 1930

Owners La. Marina Sotia y Aznar Port belonging to Bilbao

Electric Light Installation fitted by La. Enshelduna Contract No. ✓ When fitted 1930

System of Distribution Constant pressure, parallel, two wire insulated system

Pressure of supply for Lighting 110 (220 volts in Engine Room) volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct Power Direct

If alternating current system, state frequency of periods per second ✓

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off ✓

Generators, do they comply with the requirements regarding rating ✓, are they compound wound ✓

are they over compounded 5 per cent. ✓, if not compound wound state distance between each generator ✓

Where more than one generator is fitted are they arranged to run in parallel ✓, is an adjustable regulating resistance fitted in series with each shunt field ✓

Are all terminals accessible, clearly marked, and furnished with sockets ✓, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched ✓ Are the lubricating arrangements of the generators as per Rule ✓

Position of Generators One main &amp; the auxiliary port side, one main starboard side of Engine Room is the ventilation in way of the generators satisfactory ✓, are they clear of all inflammable material ✓

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators ✓ and ✓, are the generators protected from mechanical injury and damage from water, steam or oil ✓

are their axes of rotation fore and aft ✓

Earthing, are the bedplates and frames of the generating plant efficiently earthed ✓ are the prime movers and their respective generators in metallic contact ✓

Main Switch Boards, where placed On platform across forward end of Engine Room

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard ✓

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes ✓

are they protected from mechanical injury and damage from water, steam or oil ✓, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards ✓ and ✓

are they constructed wholly of durable, non-ignitable non-absorbent materials ✓, is all insulation of high dielectric strength and of permanently high insulation resistance Slate panels, if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or micawite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework ✓ and is the frame effectively earthed ✓ Are the fittings as per Rule regarding:— spacing or shielding of live parts

accessibility of all parts ✓, absence of fuses on back of board ✓, proportion of omnibus bars ✓, individual fuses to voltmeter, pilot or earth lamp ✓, connections of switches ✓

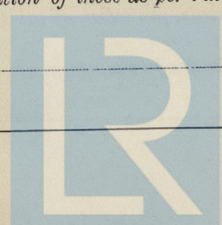
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Each generator fitted with double pole automatic switch, with inverse overload trips, and with interlocked equalizer switch. Each outgoing circuit fitted with double pole switch, with fuse on each pole

Instruments on main switchboard 3 ammeters 2 voltmeters and synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth lamps

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules ✓

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule ✓



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004107-004115-0011



**Cables:** *Single, twin, concentric, or multicore* Single are the cables insulated and protected as per Tables IV or V of the Rules Yes

**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets

**Cable Runs**, are the cables sized as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage. *Yes*

If cables are run in wood casings, are the casings and caps secured by screws ✓, are the cap screws of brass ✓, are the cables run in separate grooves ✓. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII ✓

**Joints in Cables, state if any, and how made, insulated, and protected** *None*

**Bushes in Beams and Non-watertight Partitions,** *where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed.* *No* state the material of which the bushes are made. *Fibre*

....., are their connections made as per Rule ✓

**Alternative Lighting**, are the groups of lights in the propelling machinery space arranged as per Rule.....

**Emergency Supply**, state position and method of control of the emergency supply and how the generator is driven *None*

**Navigation Lamps,** are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes,

are the switches and fuses grouped in a position accessible only to the officers on watch. Yes

has each navigation lamp, an automatic indicator as per Rule.....

**Secondary Batteries,** are they constructed and fitted as per Rule ☒

**Fittings**, are all fittings on weather decks, in stokeholds and engine rooms and where or exposed to drip or condensed moisture, watertight.....

are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected. None

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected.....✓

....., how are the cables led

where are the controlling switches situated ☒ *main hall*

Searchlight Lamps, No. of ✓, whether fired or portable ✓, are their fillings as per Rule ✓

**Arc Lamps,** other than searchlight lamps, No. of ✓, are their live parts insulated from the frame or case ✓, are their fittings as per Rule ✓

**Motors,** are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes

are the brushes, brush holders, terminals and lubricating arrangements as per Rule 4, are the motors placed in well-ventilated compartments in which

inflammable gases cannot accumulate and clear of all inflammable material Yes

are they protected from mechanical injury and damage from water, steam or oil? Yes are their axes of rotation fore and aft? When heeled

*if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type*

....., if not of this type, state distance of the combustible material horizontally or vertically above the motors ..... and .....

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule. *M*

**Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule Five max

**Ships carrying Oil having a Flash Point less than 150° F.** Have the special requirements of the Rules been complied with regarding switches, joint boxes,

section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings ✓

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office.....✓

DE-SCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Rvs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ... ..	2	100	220	155	400	Diesel Engine	Diesel oil	abn 150° F
AUXILIARY	1	40	220	182	400	"	"	"
EMERGENCY ...	✓							
ROTARY TRANSFORMER	1	15	110	130	1550			

[illegible]

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. ins.	COMPOSITION OF STRAND.		T. bal Maximum Current. 'm. amp.	Approximate Length. (Lead and Return) feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP ... ..	1	95	27	1.85	126	45	Paint	Lead covered & iron casing
	MAIN BILGE LINE PUMPS	1	25	19	1.30	60	30	-	-
	GENERAL SERVICE PUMP	1	10	7	1.35	36	35	-	-
	EMERGENCY BILGE PUMP	✓							
	SANITARY PUMP ... ..	1	10	7	1.35	10	72	-	-
	CIRC. SEA WATER PUMPS	2	25	19	1.30	65	35	-	-
	CIRC. FRESH WATER PUMPS	✓							
	AIR COMPRESSOR ... ..	-							
	FRESH WATER PUMP ...	1	10	7	1.35	10	72	-	-
	ENGINE TURNING GEAR ...	1	4	7	0.85	15	40	-	-
	ENGINE REVERSING GEAR	✓							
	LUBRICATING OIL PUMPS	1	2	3	0.95	8	7	-	-
	OIL FUEL TRANSFER PUMP	1	10	7	1.35	39	5	-	-
	WINDLASS ... ..	1	75	37	1.60	144	80	-	-
	WINCHES, FORWARD ...	4	65	19	2.10	125	50	-	-
	WINCHES, AFT ... ..	4	65	19	2.10	125	80	-	-
	STEERING GEAR—								
	(a) MOTOR GENERATOR...	1	25	19	1.30	58	140	Paint	Lead covered & armored
	(b) MAIN MOTOR ... ..	1	6	7	1.05	25	50	-	-
	WORKSHOP MOTOR ... ..	✓							
	VENTILATING FANS ... ..	✓							
	Capstan	1	50	19	1.85	90	130	-	-
	Fract. air separator	2	4	7	0.85	6.5	8	-	-
	Submersible air	1	2	3	0.95	4.5	15	-	-



All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

COMPANIA EUSKALDUNA DE  
CONSTRUCCION Y REPARACION DE BUSEN

El Director.

Electrical Engineers.

Date

### COMPASSES.

Distance between electric generators or motors and standard compass

16 mts

Distance between electric generators or motors and steering compass

13

The nearest cables to the compasses are as follows:—

A cable carrying .10 Ampères feet from standard compass 2 feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

The maximum deviation due to electric currents 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.

COMPANIA EUSKALDUNA DE  
CONSTRUCCION Y REPARACION DE BUSEN

El Director.

Builder's Signature.

Date

Is this installation a duplicate of a previous case

Yes

If so, state name of vessel

"ARAYA MENDI"

General Remarks (State quality of workmanship, opinions as to class, &c.)

See also Particulars fitted on board this vessel in accordance with the Rules as is approved, and is eligible in my opinion to be classed, with the notation of "Electric Light" and "Wireless" in the Register Book.

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

Total Capacity of Generators 240 Kilowatts.

The amount of Fee

£ 2296

When applied for,

7/7/30

Travelling Expenses (if any) £

When received,

9/7/30

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 25 JUL 1930

Assigned

Elec Lt



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