

No. 8162

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office..... 3 AUG 1932

Report 1st Aug. 1932 When handed in at Local Office 4th Aug. 1932 Port of Bilbao

Survey held at Bilbao Date, First Survey 18th April Last Survey 23rd July 1932
(Number of Visits..... 16.....)

on the steel twin Sc. M.V. "CAMPEADOR" Tons { Gross 7932.06
Net 4411.76

No. Bilbao By whom built Cia. Eschelduna Yard No. 96 When built 1932

Cia. Arrendataria del Monopolio de Petroleos S.A. Port belonging to Santander
Light Installation fitted by Cia. Eschelduna Contract No. - When fitted 1932

essel fitted for carrying Petroleum in bulk Yes

of Distribution Constant pressure, parallel, two wire insulated system ✓
of supply for Lighting 110 volts, Heating 220 volts, Power 220 volts. ✓

or Alternating Current, Lighting Direct Power Direct ✓

Working ating current system, state frequency of periods per second ✓

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

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

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

more than one generator is fitted are they arranged to run in parallel Yes, is an adjustable regulating resistance fitted in ✓

with each shunt field Yes

terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, ✓

reculted, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes ✓

Number of Generators One each side of engine room; auxiliary generator in T. Dk. port side E.R. ✓

ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yes ✓

located near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators ✓

and Yes, are the generators protected from mechanical injury and damage from water, steam or oil Yes ✓

Horizontal axes of rotation fore and aft Yes ✓

Founding, are the bedplates and frames of the generating plant efficiently earthed Yes, are the prime movers and ✓

respective generators in metallic contact Yes ✓

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 ✓

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 Yes ✓

protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected ✓

work 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 Yes, is all insulation of high dielectric strength and of ✓

adequately high insulation resistance Slate panels, if semi-insulating material is used, are all conducting parts insulated from the slab ✓

mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes ✓

is the frame effectively earthed Yes Are the fittings as per Rule regarding: - spacing or shielding of live parts ✓

Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus ✓

Yes, individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches Yes ✓

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 reverse & overload trips, and with interlocked equalizer ✓

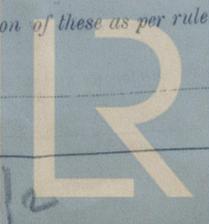
switch. Each outgoing circuit fitted with double pole quick break switch, with fuse on each pole. ✓

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

with 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. Yes ✓

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



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Cables: Single, twin, concentric, or multicore Single are the cables insulated and protected as per Tables IV or V of the Rules Yes
E.R. slightly out circuit than

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 5 volts

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
Yes

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound
Yes

Cable Runs, are the cables fixed 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
Clipped to rigid metal supporting runs
Cables lead covered, armored

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

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements Yes

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

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes, state the material of which the bushes are made off

Earthing Connections, state what earthing connections are fitted and their respective sectional areas off, are their connections made as per Rule off

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

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 Yes

Secondary Batteries, are they constructed and fitted as per Rule off

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes, 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 Pump room
drylight fitted with light enclosed in drylight stout glass bowls, how are the cables led outside of case casing
 where are the controlling switches situated in Bridge bulk

Searchlight Lamps, No. of One, whether fixed or portable Fixed, are their fittings as per Rule Yes

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

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

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

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule Steel mast

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

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHEN DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	80	220	365	450	Auxiliary oil engine	Diesel oil	above 150° F
AUXILIARY	1	50	220	227	460	Steam engine		
EMERGENCY	✓							
ROTARY TRANSFORMER	2	15	110	156	1900	Electric motor		

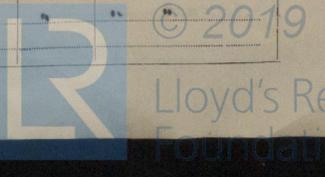
GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT-AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter in.	In Circuit.	Rule.			
MAIN GENERATOR	1	391	91	2.35	365	384	28	Rubber	Lead & armored
EQUALISER CONNECTIONS	1	127	37	2.10	184	184	14	"	"
AUXILIARY GENERATOR	1	195	37	2.60	227	240	38	"	"
EMERGENCY GENERATOR	1	65	19	2.10	118	118	19	"	"
ROTARY TRANSFORMER	1	49	19	1.85	95	97	8	"	"
ENGINE ROOM	1	25	19	1.30	50	64	20	"	"
AUXILIARY SWITCHBOARDS	✓	3	7	0.75	12.5	18.2	40/60	"	"
ACCOMMODATION	1	75	37	1.60	117	130	154	Rubber	Lead & armored
WIRELESS	1	7	7	1.15	4	32	190	Rubber	Lead & armored
SEARCHLIGHT	1	2	3	0.90	9	12	24	"	"
MASTHEAD LIGHT	1	1.25	3	0.75	1	7.8	82	"	"
SIDE LIGHTS	1	1.25	3	0.75	1	7.8	82	"	"
COMPASS LIGHTS	1	1.25	3	0.75	1	7.8	12	"	"
POOP LIGHTS	1	1.25	3	0.75	1	7.8	25	"	"
CARGO LIGHTS	1	1.25	3	0.75	1	7.8	20	"	"
HEATERS	1	262	61	2.35	286	288	90	"	"

MOTOR CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT-AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter in.	In Circuit.	Rule.			
BALLAST PUMP	✓								
MAIN BILGE LINE PUMPS	1	14	7	1.60	40	46	52	Rubber	Lead & armored
GENERAL SERVICE PUMP	1	159	37	2.35	210	214	44	"	"
EMERGENCY BILGE PUMP	✓								
SANITARY PUMP	1	5	7	0.95	20	26	54	"	"
CIRC. SEA WATER PUMPS	1	16	7	1.70	50	51	22	"	"
CIRC. FRESH WATER PUMPS	✓								
AIR COMPRESSOR	✓								
FRESH WATER PUMP	1	6	7	1.05	14	30	70	"	"
ENGINE TURNING GEAR	2	14	7	1.60	41.5	46	30	"	"
ENGINE REVERSING GEAR	✓								
LUBRICATING OIL PUMPS	1	65	19	2.10	94	118	64	"	"
OIL FUEL TRANSFER PUMP	2	3	7	0.75	18	18.2	44	"	"
WINDLASS	✓								
WINCHES, FORWARD	✓								
WINCHES, AFT	✓								
STEERING GEAR	✓								
(a) MOTOR GENERATOR	2	35	19	1.53	85	78	104	Rubber	Lead, armored & shielded
(b) MAIN MOTOR	1	3	7	0.75	18	18.2	40	"	"
WORKSHOP MOTOR	✓								
VENTILATING FANS	✓								
Diesel oil separator	2	3	7	0.75	6.25	18.2	43	"	"
Diesel oil separator	1	3	7	0.75	6.25	18.2	59	"	"
Pumping compressor	1	5	7	0.95	20	26	74	"	"
Oil fuel pump	2	3	7	0.75	18	18.2	50	"	"
Oil fuel pump	2	3	7	0.75	18	18.2	40	"	"

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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.

FOR LA COMPANIA EUSKALDUNA DE CONSTRUCCION Y REPARACION DE BUQUES

El Director

Electrical Engineers.

Date 4/8/32

COMPASSES.

Distance between electric generators or motors and standard compass 66 meters
Distance between electric generators or motors and steering compass 65
The nearest cables to the compasses are as follows:
A cable carrying 1.0 Amperes 8 feet from standard compass 26.1 feet from steering compass.
A cable carrying Amperes feet from standard compass 28.1 feet from steering compass.
A cable carrying Amperes feet from standard compass 25.0 feet from steering compass.
Have the compasses been adjusted with and without the electric installation at work at full power Yes
Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted Yes
The maximum deviation due to electric currents was found to be 1/2 degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

FOR LA COMPANIA EUSKALDUNA DE CONSTRUCCION Y REPARACION DE BUQUES

El Director

Builder's Signature.

Date 4/8/32

Is this installation a duplicate of a previous case Yes If so, state name of vessel Banfoamar

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

has been satisfactorily fitted on board this vessel insulation and running tests as per Rules carried out with satisfactory results. The Electrical Installation of this vessel is eligible in my opinion to be classed into the notation in the Register Book of "Electric Light" and "Wireless D.F." The vessel has also been fitted with an electrical sounding device.

It is admitted that this vessel is eligible for THE RECORD

Electric Light.

10.8.32

Total Capacity of Generators 210 Kilowatts.

The amount of Fee ... Pto. 2425-5 When applied for, 5/8.19.32

Travelling Expenses (if any) ... 171: When received, 15.8.19.32

Committee's Minute

Assigned

Joy Kendall

Surveyor to Lloyd's Register of Shipping.

1m.9.90.-Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

