

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Writing Report 12th Jan 1932 when handed in at Local Office 13th Jan 1932 Port of Bilbao Received at London Office 18 JAN 1932

Survey held at Bilbao Date, First Survey 15th Sept. Last Survey 23rd Dec 1931

Book. No. on the Twin Sc. M.V. "CABO SANTO TOME" (Number of Visits 2)

By whom built Messrs. Soc. Española de Constr. Naval. Yard No. 39. Tons { Gross 11868. Net 7521. When built 1931.

Port belonging to Seville

Electric Light Installation fitted by Messrs. Soc. Esp. de Con. Naval. Contract No. ✓ When fitted 1931.

Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Parallel Two wire Constant pressure.

Voltage of supply for Lighting 110 volts, Heating 220 volts, Power 220 volts.

System of Alternating Current, Lighting Direct. Power Direct.

Rating of alternating 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 ✓

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, ✓

Insulated, or touched Yes. Are the lubricating arrangements of the generators as per Rule Yes.

Position of Generators Two either side of engine room.

Obstruction in way of the generators satisfactory Yes. are they clear of all inflammable material Yes.

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

Are the generators protected from mechanical injury and damage from water, steam or oil Yes.

Directions of rotation fore and aft Yes.

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

Connections of generators in metallic contact Yes.

Position of Switch Boards, where placed On platform at fore bulkhead of engine room.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with ✓

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 ✓

Kept near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards ✓ and ✓

Constructed wholly of durable, non-ignitable non-absorbent materials Yes, mangle is all insulation of high dielectric strength and of ✓

Highly high insulation resistance Yes. if semi-insulating material is used, are all conducting parts insulated from the slab ✓

Insulation of mica or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes.

Frame effectively earthed Yes. Are the fittings as per Rule regarding: — spacing or shielding of live parts ✓

Accessibility of all parts Yes. absence of fuses on back of board Yes. proportion of omnibus ✓

Individual fuses to voltmeter, pilot or earth lamp Yes. connections of switches Yes.

Description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Double pole automatic ✓

With reverse current and overload trips, and equalizer switch interlocked.

Outgoing circuit fitted with double pole switch & fuse on each pole.

Instruments on main switchboard H. ammeters H. voltmeters ✓ synchronising device for paralleling purposes.

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

Connected to earth thro' switches and fuses.

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

Construction of Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes. 2020



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

Fail of Pressure, state maximum between bus bars and any point of the installation under maximum load 5V. Lighting 13V. Heating 10V.

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.

Support and Protection of Cables, state how the cables are supported and protected In machinery spaces on weather decks lead covered supported by clips. In accommodation etc. in wood casing.

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 armoured 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 None fitted.

Joints in Cables, state if any, and how made, insulated, and protected No joints

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 Lead.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas ✓

are their connections made as per Rule Yes.

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 Emergency engine, Dynamo & switchboard housed on boat dk. Semi Diesel 25 K.W. 220 volts.

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 ✓

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 No.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected No.

how are the cables led ✓

where are the controlling switches situated ✓

Searchlight Lamps, No. of ✓, whether fixed or portable ✓, are their fittings 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 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 Yes.

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 Yes.

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

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 ✓

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	4	150	220	650	350	Diesel engine	Heavy oil	Above 150° F.
AUXILIARY	✓	✓	✓	✓	✓	✓	✓	✓
EMERGENCY	1	20	220	100	365	Diesel engine	Heavy oil	Above 150° F.
ROTAry TRANSFORMER	2	20	110	180	1200	32 HP. Electric motor.	✓	✓

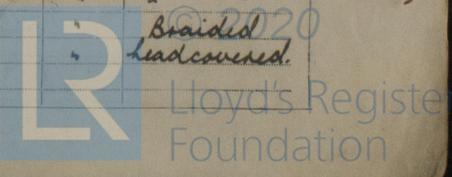
GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	No. per Pole.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) in MTS.	Insulated with	HOW PROTECTED.
		Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR	2	4930	37	0.93	650	686	33 (MAX.)	Paper	Lead covered.	
EQUALISER CONNECTIONS	2	4930	37	0.93	325	686	33 (MAX.)	"	"	
AUXILIARY GENERATOR	✓	✓	✓	✓	✓	✓	✓	✓	✓	
EMERGENCY GENERATOR	1	11680	37	0.64	100	130	10	Rubber	Braided.	
ROTAry TRANSFORMER GENERATOR	1	11680	37	0.64	110	130	10	Rubber	Lead covered.	
ENGINE ROOM	1	03960	19	0.52	60	64	15	"	"	
BOILER ROOM	✓	✓	✓	✓	✓	✓	✓	✓	✓	
EMERGENCY SWITCHBOARDS	1	11680	37	0.64	127	130	115	Rubber	Braided.	
GALLEY OVENS	1	19640	37	0.93	290	343	60	Paper	Lead covered.	
STEAM PROPULSION OVENS	1	19640	37	0.83	160	184	65	Rubber	Braided.	
GALLEY BOILERS	1	19640	37	0.83	182	184	30	"	"	
2 LAUNDRIES	1	19640	37	0.83	160	184	200	"	"	
PANTRY HEATER	1	10090	19	0.83	118	118	65	"	"	
ACCOMMODATION	✓	✓	✓	✓	✓	✓	✓	✓	✓	
UPPER DECK	1	03960	19	0.52	58	64	30	"	"	
PROM. DECK	1	03960	19	0.52	54	64	30	"	"	
BOAT DECK	1	02214	7	0.64	35	46	30	"	"	
DK. LIGHTS & CREW	1	03960	19	0.52	56	64	30	"	"	
WIRELESS NAVIGATION LIGHTS	1	00299	3	0.52	58	64	4	"	"	
MASTHEAD LIGHT	1	00152	1	0.44	5	12	135	"	"	
SIDE LIGHTS	1	00152	1	0.44	5	61	60	"	"	
COMPASS LIGHTS	1	00152	1	0.44	2	61	30	"	"	
POOP LIGHTS	1	00152	1	0.44	5	61	300	"	"	
CARGO LIGHTS	1	10090	19	0.83	110	118	30	"	"	
HEATERS	1	19640	37	0.83	188	184	60	"	"	
HEATERS	2	10090	19	0.83	108	118	60	"	"	

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) in MTS.	Insulated with	HOW PROTECTED.
		Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.				
BALLAST PUMP	1	10090	19	0.83	117	118	80	Rubber	Lead covered.	
MAIN BILGE LINE PUMPS	1	10090	19	0.83	117	118	50	"	"	
FUEL OIL P.S. PUMP	1	00455	7	0.83	15	18.2	60	"	"	
EMERGENCY BILGE PUMP	1	10090	19	0.83	117	118	80	"	Braided.	
SANITARY PUMP	1	07592	19	0.72	89	97	70	"	Lead covered.	
CIRC. SEA WATER PUMPS	ONE	24650	37	0.83	244	296	60	Paper	Lead covered.	
CIRC. FRESH WATER PUMPS	EACH	✓	✓	✓	✓	✓	✓	✓	✓	
AIR COMPRESSOR	✓	✓	✓	✓	✓	✓	✓	✓	✓	
FRESH WATER PUMPS	LEACH	1	00299	3	0.36	11	12	80	Rubber	Lead covered.
ENGINE TURNING GEAR	LEACH	1	03960	19	0.52	63	64	100	"	"
ENGINE REVERSING GEAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	
LUBRICATING OIL PUMPS	LEACH	1	10090	19	0.83	101	118	115	"	"
OIL FUEL TRANSFER PUMP	1	02214	7	0.64	41	46	60	"	"	
WINDLASS	1	24650	37	0.93	295	295	195	"	Braided.	
WINCHES, To Box	LEACH	1	24650	37	0.93	266	295	160 (MAX.)	"	"
14 PAIRS. FROM BOX	1	10090	19	0.83	133	142	40 (MAX.)	"	"	
WINCHES, (BOAT)	LEACH	1	14780	37	0.72	170	191	70	"	"
2 CAPSTANS, To Box	LEACH	1	24650	37	0.93	266	295	175	"	"
STEERING GEAR	1. STAND BY.	✓	✓	✓	✓	✓	✓	✓	✓	
(a) MAIN MOTORS	LEACH	1	06000	19	0.64	80	83	200	Rubber	Braided.
WORKSHOP MOTOR	1	00701	7	0.36	20	24	65	"	Lead.	
2 VENTILATING FANS	ER. LEACH	1	11680	37	0.64	128	130	70	"	Braided.
6 " ACCOM.	"	1	03960	19	0.52	52	64	60	"	"
2 REFRIG. MACHINES	"	1	02840	19	0.44	57	53	60	"	Lead covered.
2 BRINE PUMPS	"	1	00152	1	0.44	5	61	10	"	"
LIFT.	1	00455	7	0.29	17	18.2	50	"	Braided.	
GALLEY ETC.	6.	1	02840	19	0.44	46	53	40	"	Lead covered.

W513-0048 2/2



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.

SOCIEDAD ESPAÑOLA DE CONSTRUCCIÓN NAVAL

Frank W. Benson

Electrical Engineers.

Date

Jefe del Departamento de Reques.

COMPASSES.

Distance between electric generators or motors and standard compass About 35 feet from Ventilating fan motor.

Distance between electric generators or motors and steering compass About 40 feet from Ventilating fan motor.

The nearest cables to the compasses are as follows:—

A cable carrying 2 Ampères on the ~~feet from~~ standard compass 6 feet from steering compass.

A cable carrying 2 Ampères 6 feet from standard compass on the ~~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 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 nil degrees on any course in the case of the standard

compass, and nil degrees on any course in the case of the steering compass.

SOCIEDAD ESPAÑOLA DE CONSTRUCCIÓN NAVAL

Frank W. Benson

Builder's Signature.

Date

Jefe del Departamento de Reques.

Is this installation a duplicate of a previous case Yes. If so, state name of vessel "Cabo San Agustin".

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

stated above, has been constructed, and satisfactorily fitted on board this vessel, in accordance with the approved plans, and the Rules and Regulations of the Society. The workmanship and material employed were found to be good.

The electrical installation of this vessel is in my opinion eligible to be classed, and to have notation of "Electric light" in the Register Book.

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

Elec. light

19/1/32.

Total Capacity of Generators 600. Kilowatts.

The amount of Fee ... £ 69.15. When applied for, 30/12/31.

Travelling Expenses (if any) £ Changed on marchy Rpt. When received, 7.4.32.

George R. Chappel Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 22 JAN 1932

Assigned Elec. light

Im. 9. 50. — Transfer. (The Surveys are requested not to write on or below the space for Committee's Minute.)



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