

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

No. 1421

11 MAY 1934

Date of writing Report April 21 1934 When handed in at Local Office 5 May 1934 Port of Cadiz Received at London Office

No. in Survey held at Malagorda Cadiz Date, First Survey July 8 1933 Last Survey April 18 1934 Reg. Book.

22902 on the Motor Vessel "Campeche" (Number of Visits.....)

Built at Malagorda Cadiz By whom built S E de C N Yard No. 66 Tons { Gross 6300 Net

Owners C. A. M. F. S. A. Port belonging to Tarragona When built 1933/4

Electric Light Installation fitted by Sociedad Espanola de Construcción Naval Contract No. ✓ When fitted 1933/4

System of Distribution

Two insulating wires ✓

Pressure of supply for Lighting

110

volts, Heating

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 ✓

Yes

are they compound wound ✓

Yes

are they over compounded 5 per cent. ✓

Yes

if not compound wound state distance between each generator ✓

Where more than one generator is fitted are they arranged to run in parallel ✓

Yes

is an adjustable regulating resistance fitted in series with each shunt field ✓

Are all terminals accessible, clearly marked, and furnished with sockets ✓

Yes

are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched ✓

Yes

Are the lubricating arrangements of the generators as per Rule ✓

Yes

Position of Generators

In Engine room, forward end port & starboard. Steam engine near centre port for ✓

is the ventilation in way of the generators satisfactory ✓

Yes

are they clear of all inflammable material ✓

Yes

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 ✓

Yes

are their axes of rotation fore and aft ✓

Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed ✓

Yes

are the prime movers and their respective generators in metallic contact ✓

Yes

Main Switch Boards, where placed in Engine room on raised platform alongside 43 Bkd

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 ✓

Yes

are they protected from mechanical injury and damage from water, steam or oil ✓

Yes

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 ✓

Yes

is all insulation of high dielectric strength and of permanently high insulation resistance ✓

Yes

if semi-insulating material is used, are all conducting parts insulated from the slab ✓

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

Yes

and 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 bars ✓

Yes

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Each main switch is triple pole and one of the contacts for the equalizing wire, they are of the over loaded type and return current each outgoing circuit has a fuse on each pole and switch of two poles of cutting out type

Instruments on main switchboard

4

ammeters

4

volts

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 one Voltmeter with double scale in volts & Ohms with one position for each of the principal bars. ✓

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

Yes

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

Yes

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

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load. *Lighting 500 lbs Power 4.5 lbs*

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 *Carried on plates by clips otherwise to ship's structure*

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? *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 *junction boxes in accordance with rules*

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? *✓*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven? *✓*

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 storerooms 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 *one*, whether fixed or portable? *fixed*, are their fittings as per Rule? *yes*

Are 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? *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	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	40 each	220	318	345	Motor Diesel	Gas oil	
AUXILIARY	1	50	220	226		Steam		
EMERGENCY								
ROTARY TRANSFORMER	2	15	110	136		Electric Motor		

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	1x322	61	2.62	318	18	rubber	Lead & Armoured
	EQUALISER CONNECTIONS	1	1x322	61	2.62		9	"	"
	AUXILIARY GENERATOR	2	1x323	34	1.82	136	20	"	"
	EMERGENCY GENERATOR							"	"
	ROTARY TRANSFORMER...	2	1x38.7	19	1.63		12	"	"
	AUXILIARY SWITCHBOARDS							"	"
Box 8	ENGINE ROOM	2	1x6.75	4	1.12	14	38	"	"
	BOILER ROOM							"	"
" 3	ACCOMMODATION	2	1x29.6	19	1.40	60	100	"	"
" 1	2 nd Deck aft. Stowage	2	1x6.75	4	1.12	20	60	"	"
" 2	" " Port	2	1x6.75	4	1.12	20	60	"	"
" 4	Upper deck	2	1x6.75	4	1.12	20	12	"	"
" 5	Master aft	2	1x6.75	4	1.12	6	50	"	"
" 6	" fore	2	1x6.75	4	1.12	6	50	"	"
" 7	Forecastle	2	1x6.75	4	1.12	4	90	"	"
	WIRELESS	2	1x6.75	4	1.12	10	134	"	"
	SEARCHLIGHT	2	1x6.75	4	1.12	10	150	"	"
	MASTHEAD LIGHT	1	2x1.25	3	0.74	1	60	"	"
	SIDE LIGHTS	1	2x1.25	3	0.74	1	20	"	"
	COMPASS LIGHTS	1	2x1.25	3	0.74	1	10	"	"
	POOP LIGHTS	1	2x1.25	3	0.74	1	108	"	"
	CARGO LIGHTS	1	2x1.25	3	0.74	2.5		"	"
	ARC LAMPS							"	"
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP	1	1x6.75	4	1.12	18.2	30	rubber	Lead & Armoured
	CIRC. SEA WATER PUMPS	1	1x2	3	0.92	4.5	8	"	"
	CIRC. WATER PUMPS	2	1x6.5	19	2.11	99	65	"	"
	AIR COMPRESSOR	1	1x6.75	4	1.12	16.5	45	"	"
	FRESH WATER PUMP	1	1x3	4	0.75	6.6	45	"	"
	ENGINE TURNING GEAR	2	1x6.75	4	1.12	16.5	45	"	"
	ENGINE REVERSING GEAR							"	"
	LUBRICATING OIL PUMPS	3	1x6.75	4	1.12	15.8	35	"	"
	OIL FUEL TRANSFER PUMP	1	1x3	4	0.75	6.6	30	"	"
	WINDLASS							"	"
	WINCHES, FORWARD							"	"
	WINCHES, AFT							"	"
	STEERING GEAR							"	"
	(a) MOTOR GENERATOR							"	"
	(b) MAIN MOTOR	1	1x25.5	19	1.32	40	40	"	"
	WORKSHOP MOTOR	1	1x6.75	4	1.12	14.8	18	"	"
	VENTILATING FANS							"	"
	Heaters	3	1x29.6	19	1.40	81	40	"	"
		2	1x4.5	4	0.91	13.2	46	"	"
	Rough mixer	1	1x3	4	0.75	6.6	15	"	"
	Galley							"	"
	Transfer pumps	2	1x6.75	4	1.12	16.5	30	"	"
	Bilge pumps	2	1x6.75	4	1.12	33	15	"	"
	Fire	1	1x127	34	2.11	188	30	"	"
	Lubricating pumps	2	1x25.5	19	1.32	25.4	60	"	"
	main Engines							"	"

All Conductors are of annealed copper conforming to British Standard Specification No. 7. yes
The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules. yes
The foregoing is a correct description.

For the S E de C N

Electrical Engineers.

Date 21.4.34

COMPASSES.

Distance between electric generators or motors and standard compass ✓
Distance between electric generators or motors and steering compass ✓
The nearest cables to the compasses are as follows:—
A cable carrying Ampères feet from standard compass 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 No effect degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

For the S E de C N

Antonio R. Guzmán

Builder's Signature.

Date 22.4.34

Is this installation a duplicate of a previous case yes If so, state name of vessel "Campamanes", "Campas", "Campero"

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

Eligible in my opinion to be classed

Noted
15/5/34

Total Capacity of Generators 190 Kilowatts.

See Secy's Ltr 4 19.3.34

The amount of Fee ...

£ 52 : 0 : 0

When applied for,

18.4.19.34

Travelling Expenses (if any) £

When received,

29.5.34

Thos. R. ...
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRL 15 JUN 1984

Assigned

Elec. St.



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