

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) Received at London Office 5 - JUN 1926

Date of writing Report 4th May. 1926 When handed in at Local Office 4th May. 1926 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 6th Jan. 26 Last Survey 21st April 1926. (Number of Visits 13.)

on the Steel Twin Screw Motor Vessel "LA PLATA MARU". Tons { Gross 7,267. Net 4387.

Built at Nagasaki. By whom built Mitsubishi Zosen Kaisha Yard No. 4 1 1. When built 1926.

Owners Osaka Shosen Kabushiki Kaisha. Port belonging to Osaka.

Electric Light Installation fitted by Mitsubishi Zosen Kaisha, Ltd., Contract No. When fitted 1926.

System of Distribution Two wire closed circuit.

Pressure of supply for Lighting 225. volts, Heating 225. volts, Power 225. 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 Yes.

Generators, do they comply with the requirements regarding overload 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. except 3.5 KW, is an adjustable regulating resistance fitted in series with each shunt field Yes.

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

Position of Generators All on bottom platform of Engine room space.

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 axis 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 Fore end of Engine room on 2nd deck level.

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 In same compartment.

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, incombustible non-absorbent materials Yes is all insulation of high dielectric strength and of permanently high insulation resistance Yes

insulated from the slab with mica or micaite and the slab similarly insulated from its framework No semi insulating material. and is the frame effectively earthed Yes.

Are the following fittings as per Rule, viz. :— 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. individual fuses to voltmeter, pilot or earth lamp Yes. connections of switches Yes.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 150 KW. and 37.5 KW.

generators are each fitted with a double pole circuit breaker with overload and reverse current release together with a single pole equalizer switch interlocked with circuit breaker as per Rule, and an enclosed fuse and knife switch on each pole... 3.5 KW generator fitted with a single pole circuit breaker with overload release plus a double pole knife switch and fuse... each out-going circuit, a fuse on each pole and a double pole switch.

Instruments on main switchboard 8 ammeters 3 voltmeters / 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 By lamps.

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

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



© 2020

Lloyd's Register Foundation

Insulation of Cables, state type of cables, single or twin **Both.** are the cables insulated and protected as per Tables III or IV of the Rules **Yes.**

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load **5 volt for power & heat.**
8 volt for lighting (by test).

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 socket **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 **/**

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. **Clamped to metal brackets or perforated galvanized steel plate by metal strips & protected by stl. armoring with or without stl. pipes.**

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 **/**. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI **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 are used, insulated by mica, protected by metal box cover.**

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands **With water tight glands and Deck tubes.**

Bushes in Beams and Non-watertight Positions, 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 steel.**

Earthing Connections, state what earthing connections are fitted and their respective sectional areas. **None. except for wireless telegraph, sectional area 0.00715 sq.in.**

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. **Machinery spaced 3.5 KW. Generator driven by a Hot Bulb Engine.**

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**, are separate screens provided for the use of oil and electric side lights **Yes**

are separate oil lanterns provided for the masthead lights and side lights **Yes.**

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 **Lamps in stowage are protected by strong metal guard & casing wood hinged cover.**

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 **/**

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 axis 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 **Totally enclosed.** 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 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	150	225	566	300	2 Cycle Sulzer Diesel.	Diesel Oil	185° F.
AUXILIARY	1	37.5	225	166	350	2 " " "	" "	" "
EMERGENCY	1	3.5	225	15.6	450	2 Cycle Sing. Cylr.	Kerosene.	120° F
ROTARY TRANSFORMER	1	3	250			Hot Bulb Sulzer Eng.		
	1	1/2	100			5 HP 220 V. 20amp. DC Motor.		
						50 V. 24 Amp. motor.		

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								SEE SEPARATE SHEET.
	ENGINE ROOM								
	BOILER ROOM								
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT...								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	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								SEE SEPARATE SHEET.
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	WORKSHOP MOTOR								
	VENTILATING FANS								

Insulation
 Fall of Pr
 Cable Sock
 Yes.
 Paper Insu
 insulating con
 Cable Runs
 steam pipes, u
 Support and
 galvanizati
 If cables are
 separate groov
 Refrigerate
 Joints in Ca
 protecte
 Watertight
 With wat
 Bushes in B
 bushed Y
 Earthing Co
 telegrap
 Alternative
 Emergency S
 Generato
 Navigation L
 are the fuses do
 has each naviga
 are separate oil
 Fittings, are a
 are any fillings
 are prote
 are any fillings
 Searchlight I
 Arc Lamps, ot
 Motors, are th
 are the brushes,
 inflammable gas
 are they protecte
 if situated near
 Totally
 enclos
 Control Gear
 Lightning Con
 Ships carryin
 section and distr
 If portable lamps

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.

The Builder (See under) Electrical Engineers. Date

COMPASSES.
 Distance between electric generators or motors and standard compass About 10 feet from Gyro-pilot compass.
 Distance between electric generators or motors and steering compass About 3 feet " " " "
 The nearest cables to the compasses are as follows :-
 A cable carrying 0.1 Ampères One feet from standard compass One feet from steering compass. For Compass light.
 A cable carrying 1.0 Ampères Twelve feet from standard compass Three feet from steering compass. For Gyro-pilot motor.
 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 No. degrees on Any & every course in the case of the standard compass, and about 18 degrees on Westerly or Easterly course in the case of the steering compass.

S. Inotora Builder's Signature. Date MAY 1926

Is this installation a duplicate of a previous case. Yes If so, state name of vessel M.V. "Santos Maru".
 General Remarks (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good and the installation as a whole complies with the Rules, and special instructions, & tests have been carried out accordingly and it is the opinion of the undersigned that the vessel be given the highest class.
 Plans sent under separate cover of:- "Load Distribution Diagram", and "Connection Diagram of Main Switchboard".

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

J.W.D. 7/6/26

Total Capacity of Generators 491. Kilowatts

The amount of Fee ... £ 683:60 : 21. 4. 26.
 Travelling Expenses (if any) £ : 26. 4. 26.

W. Kimber. Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 8 JUN 1926
 Assigned Elec. Light

Steel Twin Screw Motor Vessel "LA PLATA MARU".
 Generator, Lighting, Heating Condensers.

Ref. No.	Description.	No. of Set	Effective Area of each Condfr Sq. in.	Composition of Strand. No. Dia.	Total Maximum Current Amps.	Approx Length (Lead & Return) Feet.	Insulated with.	How. Protec- ted.	Re- Marks.
1.2.3.	Main generator.	3	.605x2	91x2 .092"	666 each	130'	Rubber	L.A.W.	
4	Aux. "	1	.186	37 .08"	166	130'	"	"	
5	Emergency generator	1	.00715	7 .036"	15.6	"	"	"	
13	Fuse board forward	1	.405x2	61x2 .092"	450	400'	"	"	
16	Fuse box mid winch	1	.186	37 .08"	170	200'	"	"	
22	Fuse board aft.	1	.405	61 .092"	280	420'	"	"	
25	Cooking fan switch	1	.00715	7 .036"	9.4	100'	"	"	
27	Baggage lift switch	1	"	7 .036"	5.1	20'	"	"	
31	Junction box ord fan	1	.0127	7 .048"	30.6	160'	"	"	
35	Cut out Elec. iron.	1	.00715	7 .036"	9	40'	"	"	
38	Junction box laundry motor.	1	.0225	7 .064"	41	580'	"	"	
45	Junction box ref. motor	1	.605	91 .092"	289	67'	"	"	
57	Junction box oil pump	1	.0127	7 .048"	26.1	80'	"	"	
67	Aux. switch board	1	.405	61 .092"	250	110'	"	"	
77	" " "	1	"	61 "	"	"	"	"	
79.80	Fore Cargo lamp	2	.0047	168 .006"	1 each	100'	"	F.C.	
81	Socket for above.	2	.00322	1 .064"	2 "	40'	"	L.A.W.	
82.83.84	Fore cargo lamp	3	.0047	168 .006"	2.3	100'	"	F.C.	
85	Socket for above	3	.00322	1 .064"	4.3	60'	"	L.A.W.	
86.87	Midship cargo lamp	2	.0047	168 .006"	1 each	100'	"	F.C.	
88	Socket for above	2	.00322	1 .064"	2 "	250'	"	L.A.W.	
89	Submain board S 6.	1	.00715	7 .036"	8.3	380'	"	"	
90.91	Aft cargo lamp	2	.0047	168 .006"	1 each	100'	"	F.C.	
92	Socket for above	2	.00322	1 .064"	2 "	45'	"	L.A.W.	
93.94.95	Aft cargo lamp	3	.0047	168 .006"	2.3	100'	"	F.C.	
96	Socket for above	3	.00322	1 .064"	4.3	45'	"	L.A.W.	
97	Submain board S 7.	1	.00715	7 .036"	6.3	370'	"	"	
98.99	1 K.W. Elect heater social hall.	2	.00322	1 .064"	4.5 each	50'	"	L.W.	
100.101	1.5 K.W. elect heater social hall.	2	.00322	1 .064"	6.8 each	125'	"	"	
102	Submain board S 10.	1	.0127	7 .048"	22.7 each	100'	"	L.A.W.	
103	2 K.W. elect heater smoke room.	1	.00322	1 .064"	9.1 each	60'	"	L.W.	
104.105	1.5 K.W. elect heater smoke room.	2	.00322	1 .064"	6.8 each	110'	"	"	
106	Submain board S 11.	1	.0127	7 .048"	22.7 each	270'	"	L.A.W.	
107	Distributing board No. 1	1	.00322	1 .064"	6.8	20'	"	"	
108	" " " 2	1	"	1 "	7.4	200'	"	"	
109	" " " 3	1	"	1 "	3.1	20'	"	"	
110	" " " 4	1	"	1 "	7.8	20'	"	"	
111	" " " 5	1	"	1 "	4.25	40'	"	"	
112	" " " 6	1	"	1 "	5.1	20'	"	"	
113	Submain board No. S 1.	1	.0226	7 .064"	32.05	125'	"	"	
114	Distributing Board No. 7	1	.00322	1 .064"	2.55	100'	"	"	
115	" " " 8	1	"	1 "	6.25	20'	"	"	
116	" " " 9	1	"	1 "	9	210'	"	"	
117	" " " 10	1	.00715	7 .036"	11.25	325'	"	"	
118	" " " 11	1	.00322	1 .064"	6.9	200'	"	"	
119	Submain board No. S 2.	1	.0225	7 .064"	28.75	210'	"	"	
120	Distributing board No. 12	1	.00322	1 .064"	6	270'	"	"	
121	" " " 13	1	"	1 "	4.95	80'	"	"	
122	" " " 14	1	"	1 "	4.5	20'	"	"	
123	" " " 15	1	"	1 "	7.7	110'	"	"	
124	" " " 16	1	"	1 "	3.2	460'	"	"	
125	" " " 17	1	"	1 "	4.95	500'	"	"	
126	Submain board No. S 3.	1	.0225	7 .064"	31.3	110'	"	"	
127	Distributing board No. 18	1	.00322	1 .064"	4.2	70'	"	"	
128	" " " 19	1	"	1 "	7.5	170'	"	"	
129	" " " 20	1	"	1 "	4.85	20'	"	"	
130	Submain board No. S 4.	1	.00715	7 .036"	16.55	140'	"	"	
131	Distributing board No. 21	1	.00322	1 .064"	4.6	20'	"	"	
132	" " " 22	1	"	1 "	6.85	20'	"	"	
133	500 watt lamp socket	1	"	1 "	2.25	125'	"	"	
134	500 watt lamp	1	.0047	168 .006"	2.25	100'	"	F.C.	
135	Submain board No. S 5.	1	.00715	7 .036"	13.7	40'	"	L.A.W.	
136	Navigation sig. Indicator	1	.00322	1 .064"	2.5	325'	"	"	
137	Distributing board No. 23	1	"	1 "	4.2	20'	"	"	
138	Cut out	1	"	1 "	1.5	215'	"	"	
139	Distributing board No. 24	1	"	1 "	4	20'	"	"	
140	Submain board No. S 8.	1	.00715	7 .036"	9.7	60'	"	"	
141	Distributing board No. 25	1	.00322	1 .064"	4.3	400'	"	"	
142	" " " 26	1	"	1 "	4.2	360'	"	"	
143	" " " 27	1	"	1 "	4.4	140'	"	"	
144	" " " 28	1	"	1 "	4.4	20'	"	"	
145	Submain board No. S 9.	1	.0225	7 .064"	27	110'	"	"	
qualizer	150 K.W. generator	3	.605	91 .092"	65	"	"	"	
"	27.5 K.W. generator	1	.186	37 .08"	65	"	"	"	

L.A.W. = Lead covered & armoured copper wire.
 F.C. = Flexible Cord.
 L.W. = Lead covered copper wire.

Steel Twin Screw Motor Vessel "LA PLATA MARU".

Motor Conductors.

Ref. No.	Description.	Effective		Composition		Total Maximum current Amperes.	Approx Length (Lead & Return) Ft.	Insulated with.	How protected.	Re-Marks
		No. of Set	Area of each Cond'r. Sq. in.	No.	Dia.					
6	Windlass	1	.406 ✓	61	.092"	216	140'	Rubber	L.A.W.	
7-12	Winches foreward	6	.119 ✓	37	.064"	111	65'	"	"	
14.15	Winches midship	2	.119 ✓	37	.064"	111	30'	"	"	
17.20	Winches Aft.	4	" ✓	37	"	111	55'	"	"	
21	Warping winch	1	.186 ✓	37	.08	145	120'	"	"	
28-30	Ventilator fan	3	.00715 ✓	7	.036"	8.5	180'	"	"	
26	Baggage lift	1	" ✓	7	"	5.1	12'	"	"	
23.24	Cooking range fan	2	" ✓	7	"	4.7	23'	"	"	
37	Washing machine	1	" ✓	7	"	12.7	23'	"	"	
36	Hydroextrator	1	" ✓	7	"	20	8'	"	"	
32-34	Electric iron	3	.00322 ✓	1	.064"	9	10'	"	"	
39.40	Steering engine	2	.119 ✓	37	"	97	350'	"	"	
41.42	Ref. Machine	2	.186 ✓	37	.08"	124	12'	"	"	
43.44	Brine pumps	2	.00715 ✓	7	.036"	20.5	12'	"	"	
46	Gyro pilot	1	.00322 ✓	1	.064"	1.35	250'	"	"	
46	Gyro compass	1	.00715 ✓	7	.036"	4	130'	"	"	
47	Wireless telegraph	1	" ✓	7	.036	20	240'	"	"	
48.49	Turbo, blower	2	.605x2 ✓	91x2	.092"	845*	35'	"	"	* 750 Amp (Max. in service)
50.51	Aux. air comp.	2	.405x2 ✓	61x2	"	528	55'	"	"	
52	Work shop motor	1	.00715 ✓	7	.036"	21.5	70'	"	"	
53.54	Oil pump	2	" ✓	7	"	4.78	20'	"	"	
55.56	Oil purifier	2	" ✓	7	"	8	20'	"	"	
58.68	Jacket cool water pump	2	.119 ✓	37	.064"	86	90'	"	"	
59.69	Piston cool W. pump	2	.0344 ✓	19	.048"	58	85'	"	"	
60.70	Bilge pump	2	.0127 ✓	7	.048"	27.4	35'	"	"	
61.71	Lub. oil pump	2	" ✓	7	"	35	85'	"	"	
62.72	Fuel oil pump	2	.00715 ✓	7	.036"	17.2	110'	"	"	
63	Ballast pump	1	.119 ✓	37	.064"	134	50'	"	"	
64	Cold sanitary pump	1	.0344 ✓	19	.048"	56	50'	"	"	
65	Aux.Eng.jacket C.W.P.	1	.00715 ✓	7	.036"	14.2	90'	"	"	
66	Lub.oil purifier	1	" ✓	7	"	12.3	95'	"	"	
73	General serv. pump	1	.186 ✓	37	.08"	154	40'	"	"	
74	Hat sanitary pump	1	.0225 ✓	7	.064"	36	40'	"	"	
75	Fresh water pump	1	.00715 ✓	7	.036"	13.2	140'	"	"	
76	Aux.Eng.lub.oil pump	1	" ✓	7	"	16	95'	"	"	
78	Motor siren	1	.0127 ✓	7	.048"	32	430'	"	"	

WX

