

Rpt. 13.

No. 133067

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

6 JUN 1951

Received at London Office

Date of writing Report 8.5.1951 When handed in at Local Office 19 Port of Liverpool

No. in Survey held at Birkenhead Date, First Survey 4/1/51 Last Survey 25.4.1951
Reg. Book. (No. of Visits 7)

91171 on the S.S. "GENERAL PUEYREDON" Tons { Gross. Net.

Built at Birkenhead By whom built Cammell Laird & Co. Ltd. Yard No. 1204 When built 1951

Owners Argentina Government Port belonging to Buenos Aires

Installation fitted by Cammell Laird & Co. Ltd. When fitted 1951

Is vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy. Yes Sub. Sig. No Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Two wire Voltage of Lighting 110

Heating 220 Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency —

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted

with a trip switch Yes Generators, are they compound wound Yes, and level compounded under working conditions Yes

if not compound wound state distance between generators — and from switchboard — Are the generators arranged to run

in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole

negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes Have certificates of

test for machines under 100 kw. been supplied Yes and the results found as per Rule Yes

Position of Generators In main engine room

is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury and

damage from water, steam and oil Yes Switchboards, where are main switchboards placed In main engine

room on special platform

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water,

steam and oil Yes, what insulation is used for the panels Shidamyo, if of synthetic insulating

material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as

per Rule — Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear

for each generator and arrangement of equaliser switches Triple pole circuit breakers fitted with

overload release current 5 kA.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Double pole circuit breakers w

double pole switch and fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 7

ammeters 6 voltmeters — synchronising devices For compound machines in parallel are the ammeters and reversed current

protection devices connected on the pole opposite to the equaliser connection Yes Earth Testing, state means provided

6 inch lamps

Switches, Circuit Breakers and Fuses, are they as per Rule Yes are the fuses an Approved Type Yes.

make of fuses L. Weber (Luton) Ltd. approved per Secretary's letter 14/1/49. If circuit breakers are provided for the generators, at what

overload do they operate Rated at 10% 1/2, and at what current do the reversed current protective devices operate 10% 2k.

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule Yes

Cables, are they insulated and protected as per Rule Yes, if otherwise than as per Rule are they of an Approved Type —

state maximum fall of pressure between bus bars and any point under maximum load 6 volts, are the ends of all cables having a sectional

area of 0.01 square inch and above provided with soldering sockets Yes Are all cables insulated and varnished cambric insulated

cables sealed at the ends Yes Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil,

high temperatures or risk of mechanical damage Yes, are any cables laid under machines or floorplates Yes, if so, are they

adequately protected Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit —

or of the "HR" type — State how the cables are supported or protected Main cables supported on main

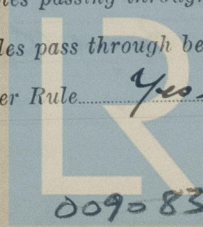
gangways by steel plates - cables L.C.A. Sub-main & machinery spaces L.C.A. clipped.

Accommodation L.C. Clipped. All cables protected as necessary.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight

bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes

effectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Yes



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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... Yes Emergency Supply, state position

Navigation Lamps, are they separately wired... Yes controlled by separate double pole switches and fuses... Yes Are the switches and fuses in a position accessible only to the officers on watch... Yes is an automatic indicator fitted... Yes Is an alternative supply provided... Yes

Secondary Batteries, are they constructed and fitted as per Rule... Yes are they adequately ventilated... Yes

state battery capacity in ampere hours... Low power 57 a.h. Telephone 10 a.h.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... Yes

Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... Yes if so, how are they protected... Flameproof fittings

and where are the controlling switches fitted... outside of spaces Are all fittings suitably ventilated... Yes

Searchlight Lamps, No. of... 2 whether fixed or portable... fixed are they of the carbon arc or of the filament type... filament

Heating and Cooking, is the general construction as per Rule... Yes are the frames effectually earthed... Yes are heaters in the accommodation of the convection type... Yes Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil... Yes

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment... Yes Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... Yes

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule... Yes

Control Gear and Resistances, are they constructed and fitted as per Rule... Yes Lightning Conductors, where required are they fitted as per Rule... — Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with... Yes are all fuses of an Approved Cartridge Type... Yes make of fuse... L. Wadsworth (Kath) the fittings for pump

rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... Yes Are the cables lead covered as per Rule... Yes

E.S.D., if fitted state maker... Anglo 4521 B. location of transmitter... Coffman Eng. Room and receiver... Coffman Eng. Room

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations... Yes

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory... Yes

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2.	Sunderland Forge	250	220	1136	1200	St. James	Peter Rutherford Ltd.
	2	do	75	220	341	500	Oil Engine	Katharine & Co. Ltd.
EMERGENCY ...								
ROTARY TRANSFORMER	2	Sunderland Forge	30	110	272	1400	U. Motors	Sunderland Forge.

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS. No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
				In the Circuit.	Rule.			
MAIN GENERATOR ...	250	Pos. 3 Neg. 4	37/103	1136	1224/1632	156	V.C.	L.C.A.
" " EQUALISER ...	75	2 Pos. 1 Neg. 2	37/103	341	408/46	228	"	"
MAIN GENERATOR.		1	37/103	—	408	114	"	"
EMERGENCY GENERATOR ...	47 HP	1	19/083	188	202	138	"	"
ROTARY TRANSFORMER: MOTOR	30	1	37/083	272	314	120	"	"
" " GENERATOR...								

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.								
Midship Section Board	51.	1	19/083	30	202	600	V.C.	L.C.A.
" " "	51.	1	19/083	110	202	600	"	"
Aft " " "	52.	1	7/064	66	80	170	"	"
Ref. " " "	53.	1	19/083	66	110	390	"	"
Galley " " "	54.	1	19/083	93	202	340	"	"
Engine Room " " "	55.	1	19/083	86	110	130	"	"
" " " "	56.	1	7/064	39	80	190	"	"
" " " "	57.	1	19/083	86	110	180	"	"
" " " "	58.	1	19/083	83	110	240	"	"
Slow Connection					314	130	"	"
Midship Section Board (Lighting)	51.	1	19/064	49.5	143	600	"	"
" " " "	51.	1	19/064	51	143	600	"	"
Aft " " "	52.	1	19/064	125	143	170	"	"

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
Navigation Lighting	D1.	1	7/029	2.5	15	140	V.I.R.
Bridge " alternative feed	D2.	1	7/029	2.5	15	140	V.C.
Bridge " "	D3.	1	7/044	2.9	31	140	V.I.R.
Navigation Bridge " "	D3A.	1	7/044	16	31	20	"
Bridge Lighting (Protections etc)	D4.	1	7/044	19	31	130	"
Boat Deck acc. Lighting	D5.	1	7/064	48	80	70	V.C.
Bridge Deck " "	D5A.	1	7/064	23	80	80	"
" " " "	D6.	1	7/044	16	31	80	V.I.R.
Bridge " "	D6.	1	7/044	18	31	90	"
Hospital Radiation	D7.	1	7/064	42	80	104	V.C.
Boat Deck Lighting Port Forward	D7A.	1	7/064	21	80	110	"
" " " "	D8.	1	7/064	36	80	154	"
" " " "	D8A.	1	7/064	15	80	110	"
Aft Acc. Lighting	D9.	1	7/044	18	31	20	V.I.R.
" " " "	D9A.	1	7/044	9	31	120	"
" " " "	D10.	1	7/044	27	31	144	"
" " " "	D10A.	1	7/044	13	31	116	"
" " " "	D11.	1	7/064	35	80	174	V.C.
" " " "	D11A.	1	7/064	21	80	116	"
Bridge Power.	D12.	1	7/029	9	15	140	V.I.R.
Galley Gear	D13.	1	7/044	14	31	30	"
Engine Room Lighting Port Forward	D14.	1	7/064	44	80	80	V.C.
" " " "	D14A.	1	7/064	22	80	200	"
" " " "	D15.	1	7/064	44	80	220	"
" " " "	D15A.	1	7/064	22	80	120	"
Two Pilot Control		1	7/044	15	31	320	V.I.R.
Radar		1	7/044	15	31	80	"
Wireless.		1	7/044	20	31	130	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Main Circulating Pump.	1	120	2	37/072	446	520	170	V.C.
Ballast " "	1	37	1	19/083	148	202	220	"
Gen. Service " "	1	30	1	19/064	120	143	220	"
Water & Bilge " "	1	30	1	19/064	120	143	200	"
Forward Drift Pump.	2	22	1	19/053	90	110	156	"
Forward Lub. Pumps.	2	17	1	7/064	68	80	220	"
O.F. Pumps.	2	14	1	7/064	56	80	120	"
Exhaust " "	2	12	1	7/064	48	80	100	"
Sanitary " "	1	11.5	1	7/064	46	80	120	"
Steering Gear historic	2	40	1	19/083	155	202	446	"
Steering Gear	1	6	1	7/044	25	31	60	V.I.R.
O.F. Pressure Pump.	2	5	1	7/044	21	31	60	"
O.F. Heaters	—	—	1	7/029	9	15	80	"
Winching Machine	1	2	1	7/029	9	15	60	"
Drilling " "	1	2	1	7/029	9	15	80	"
Ladder " "	1	1.5	1	7/029	7	15	60	"
L.O. Pumps	2	1.5	1	7/029	6.9	15	56	"
Boiler Fan Fans	2	6.3	1	7/044	25.2	31	120	"
Engine Room Fan	2	4	1	7/044	16	31	140	"
Air Compressor	1	7	1	7/044	28	31	180	"
Generators. S.W. Circ Pumps	1	7	1	7/044	28	31	180	"
Trussal Water	1	5	1	7/044	21	31	40	"
O.F. Pumps	2	0.5	1	3/036	3	10	160	"
Boat Winches	4	6	1	7/044	25	31	280	"
Thruststand Fans	1	4	1	7/044	17	31	90	"
" " " "	2	3	1	7/044	13	31	160	"
Supply Fans.	1	0.75	1	3/036	4	10	90	"
Exhaust " "	43	0.75	1	3/036	4	10	140	"
Ref. Compressors.	2	5	1	7/044	21	31	100	"
" S.W. Pump.	1	1	1	3/036	5	10	216	"
Ice Cream Plant	1	1.25	1	3/036	6.5	10	32.	"
Water Boilers	1-6 kws	1	—	7/044	27.25	31	80	"
" " " "	3-7.2 kws	3	—	7/044	13.6	31	80	"
Hot Presses	1-7.5 kws	2	—	7/044	8	31	90	"
" " " "	1-3 kws	1	—	7/044	13.6	31	90	"

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The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.



Electrical Contractors.

Date

COMPASSES.

Have the compasses been adjusted under working conditions FOR AND ON BEHALF OF GAMMELL LAIRD & CO. LIMITED.

Bydie
TECHNICAL MANAGER
SHIPBUILDING DEPT.

Builder's Signature.

Date **16 MAY 1951**

Have the foregoing descriptions and schedules been verified and found correct.

Yes

Is this installation a duplicate of a previous case.

Yes

If so, state name of vessel.

'General San. Martin'

Plans. Are approved plans forwarded herewith.

No

If not, state date of approval.

6/7/50 - 10/8/50

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith.

Yes

General Remarks. (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical equipment of this vessel has been installed under special survey in accordance with the approved plans & Rules for Electrical Equipment.

The installation has been tested under working conditions and found satisfactory. The materials and workmanship are good.

In my opinion the electrical equipment is eligible to be accepted for classification.

Noted sub 26/6/51

Total Capacity of Generators *650* Kilowatts.

The amount of Fee ... £ *114 : 10 : 0* When applied for, **29 MAY 1951**

One Liverpool £ 91 : 12 : 0

" London £ 11 : 9 : 0

" Southampton £ 11 : 9 : 0

When received, *19*

Travelling Expenses (if any) £

A. Haffner
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL - 5 JUN 1951

Assigned

See Machinery Minute.