

# REPORT ON ELECTRIC PROPELLING MACHINERY

No. 22748

of writing Report 19 When handed in at Local Office 19 Port of AMSTERDAM. Received at London Office  
No. in Survey held at HAARLEM. Date, First Survey 8-9-56 19 Last Survey 13-2-1959. No. of Visits 84  
Book. 415 ~~Single~~ ~~Triple~~ ~~Quadruple~~ Screw vessel " PILOTO PARDO " Tons Gross 1882.41 Net 896.86  
Built at Haarlem By whom built N.V. Haarlemse Scheepsbouw Mij. Yard No. 552 When built 1958.  
Electrical Machines made at Slikkerveer By whom made Smit-Electro v.h.w. Generator Nos. 46675-77 When made 1958.  
Smit Motor Nos. 46678-79  
Shaft Horse Power at Full Power 1920 Republic of Chile (Dir. General de los Servicios de la Armada de Chile) Total Capacity of Generators 1590 kilowatts  
Machinery Numeral as per Rule 462 384 Owners Chile. Port belonging to Valparaiso  
Made for which Vessel is intended

Material of NS.— Have plans of the Machines, Control Gear, Cables and Circuits been submitted and approved  yes

AM ENGINES.— Type of Engine No. of Engines R.P.M. Is a Governor fitted Is the speed variation as per Rule when load is thrown off Is an Emergency Governor fitted Is it arranged for hand tripping Does it trip the throttle  
If exhaust steam is admitted, is an automatic shut-off fitted Is provision made for bleed steam and is a non-return or positive  
Lubricating Oil.— State means provided for emergency supply and is a non-return or positive  
The emergency supply sufficient to maintain lubrication as per Rule  
Cause appreciable vibration. Mechanical Balance.— Are the Engines and Generators balanced so as not

ENGINES.— Type of Engines M.A.K. (Germ.) R.P.M. 1200 Is a Governor fitted  yes Is the speed variation as per Rule when load is thrown off  yes Is an Emergency Governor fitted  yes Does it operate as per Rule  yes

GENERATORS.— Direct or Alternating Current direct No. of Generators 3 If A.C. state frequency at full load ---  
Volts per Generator 400 Amps. per Generator 1330 Have certificates of works tests been supplied  yes and the results found as per Rule  yes Ventilation.— State how arranged (open or closed system) closed system  
Are ventilating arrangements satisfactory  yes Heating when Idle.— What provision is made heating elements

Facilities for Inspection and Repair.— Are these as per Rule  yes  
Bilges.— Are the arrangements to prevent accumulation of bilge-water under the machines satisfactory  yes

MOTORS.— S.H.P. per Motor at full power 1920 No. of Motors 1 Single or double unit double Volts per Motor 600  
Amps. per Motor 1270 Have certificates of works tests been supplied  yes and the results found as per Rule  yes A.C. Motors.— Is provision made for  
slipping the slip rings --- Do the Motors remain in synchronism under all normal conditions of running --- D.C. Motors.— If the system permits  
overspeeding at light loads are overspeed protection devices fitted ---

EXCITATION.— Is power for excitation taken from the ship's Auxiliary Generators  yes If so, state voltage 440 and excitation amperes at full  
load 43.1 kilowatts for excitation 28 State excitation arrangements for Propulsion Generators 1 exciter

Propelling Motors 1 exciter Is an alternative means of excitation provided 1 exciter set stand by  
Have certificates of works tests been supplied  yes and found as per Rule  yes

CONTROL.— Position of Main Control Panel platform engine room  
Does it comply with the requirements regarding position  yes, grouping of controls  yes, instruments  yes, insulating materials (state type  
dead front type  
Spacing and shielding of live parts  yes, accessibility  yes, position of fuses  yes,  
spacing of screws and nuts  yes, labelling  yes, fuses for voltmeters, pilot lamps, etc.  yes, provision for manual operation of contactors, etc.  
(state method employed) contactors can be controlled by hand, by means of nylon handle.

Letters possible. Ringing of instrument cases  yes, provision of renewable tips on switches subject to arcing  yes, capability of withstanding  
shock and inclination  yes, operation with high and low voltage  yes, rustproofing of parts. Overload and Short Circuit Protection.— State means  
provided Aural alarm & indicating lamps. system prevents overloading

What load is it set to operate 1800 Amps. Has it been tripped by hand when running at full power and found satisfactory  yes  
Fuses of an approved type  yes

Earth Detection.— Is the main circuit provided with means for detecting earths  yes Are aural and visual alarms fitted  yes Is main power interrupted  
on earth fault  no If a limiting resistance is in the earth detecting circuit what is the ohmic value 150 What earth leakage current is necessary  
to operate the device 5 If a switch is used to disconnect the aural signal does it automatically give visual indication  yes Are the excitation circuits  
provided with means for earth detection  yes Mechanical Protection.— Are circuits above 250 volts D.C. or 150 volts A.C. to earth protected as per Rule  yes

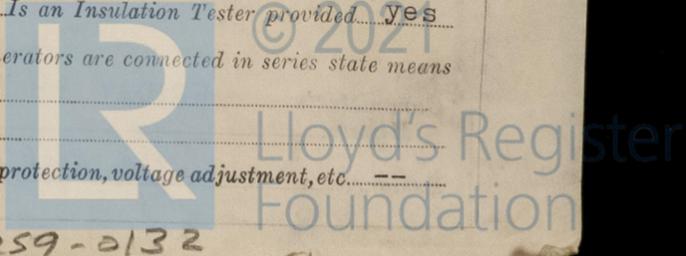
Bridge or Deck Control.— Is bridge control provided  yes If so, from how many stations 1 crownest 2 bridge deck 1 bridge elect. can it be operated freely without producing  
overloads or loads in excess of the working capacity of the plant  yes and without reference to electrical instruments  yes Is an emergency control provided  
in the engine room  no and can the transfer to this control be made quickly in the engine room  no Can the emergency control be rendered mechanically  
independent of the deck control  --- Instruments and Gauges.— State Instruments provided for each Generator 1 voltmeter and 1 ammeter

Working hours counting meter  
for each Motor 1 ammeter main circ. tachometer amp. field c. Is an Insulation Tester provided  yes

Charge Protection.— Are all shunt field circuits protected as per Rule  yes D.C. Systems.— If the Generators are connected in series state means  
provided to prevent reversal of direction of rotation of the Prime Movers  yes

Are the Propulsion Generators also used alternatively for other purposes  no If so, is provision made for overload protection, voltage adjustment, etc. ---

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Reversing Switches.—If any are provided are they interlocked as per Rule... yes Resistances.—Are resistances for synchronous motor fields insulated as per Rule... -- Temperature Alarm.—Are machines with enclosed ventilating system, etc., fitted with temperature alarm... yes

CONDUCTORS & CABLES.—Are all essential Conductors stranded as per Rule... yes Are the ends of Paper and Varnished Cambric Insulated Cable sealed... yes Are all Cables carrying A.C. constructed and installed as per Rule... -- Have all Main Cables been tested by the Surveyors at the maker works... yes

SECONDARY BATTERIES.—Are Batteries used for starting Main Propulsion Engines... -- If so, have full particulars of rating been submitted and approved... -- Have they been tested under working conditions and do they give the required number of starts... -- Are they installed as per Rule... -- Are the charging arrangements satisfactory... --

SPARE GEAR.—If engaged on open sea service has a list of spare gear been submitted and approved... yes Is a list of the articles supplied attached to this report... yes Are they stored as per Rule... yes

### ELECTRIC PROPULSION EQUIPMENT CONDUCTORS.

DESCRIPTION	CONDUCTORS		MAXIMUM CURRENT—AMPERES*			MAXIMUM VOLTAGE	INSULATED WITH	PROTECTIVE COVERING
	No. in parallel per Pole	Sectional Area sq. mm.	In Circuit		Rule			
			When Running	When Manoeuvring				
MAIN GENERATORS	4	120	1330	1700	1580	400	silicon glass	asbestos
GENERATOR FIELDS cold	1	3.5	8	10	30			
hot	1	3.5	7	8.5	30			
MAIN MOTORS	4	120	1270	1700	1580	600	"	
MOTOR FIELDS cold	1	8	68	68	80			
hot	1	8	62	62	80			
CONTROL CIRCUITS								
OTHER CIRCUITS:—								
Interlocking circuits	1	3.5	5	5	30	220 DC	"	
Signalling circuits	1	3.5	2	2	30	117 AC.	"	

\*For field circuits the "Hot" and "Cold" value should be given.

The foregoing is a correct description,

Electrical Engineers.

Date

17-4-59

COMPASSES.—Are Single-Conductor circuits carrying direct current arranged with lead and return Conductors fitted as close to one another as possible

Have the Compasses been adjusted under working conditions... yes

Builders' Signature.

Date

16-4-59

Is this machinery duplicate of a previous case... no If so, state name of vessel... --

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

The electric propulsion installation of this vessel has been installed under Special Survey in conformity with the Society's Rules and Regulations and in accordance with the Secretary's letter and the approved plans or equivalent thereto.

The materials used are of a good quality and the design and workmanship are good.

On completion the equipment has been tried out under full working conditions and found satisfactory.

This equipment is in my opinion suitable for a classed vessel.

Total capacity of generators for propulsion purposes... 1590 kilowatts.

The amount of Fee ... £ f. 1750 When applied for, 15/5/59

Travelling Expenses (if any) £ 754.75 When received, 19

Surveyor to Lloyd's Register of Shipping.

Date 17-4-59

Committee's Minute

FRIDAY 19 JUN 1959

Assigned

See Rpt. 1



Lloyd's Register Foundation

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