

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 14.10.1960 When handed in at Local Office 14.10.1960 Port of SPLIT

No. in Survey held at SPLIT Date, First Survey 23.7.60 Last Survey 3.10.1960  
Reg. Book. (No. of Visits)

91505 on the m.s. "PADEREWSKI" Tons 7277.02  
Gross 4130.53  
Net

Built at SPLIT By whom built Brodogradilište "SPLIT" Yard No. 161 When built 1960

Owners POLSKIE LINIE OCEANICZNE Port belonging to GDYNIA

Installation fitted by Brodogradilište "SPLIT" When fitted 1960

Is vessel equipped for carrying Petroleum in bulk - Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. - Radar Yes

Plans, have they been submitted and approved Yes System of Distribution 3 phase 3 wire Voltage of Lighting 110 V

Heating 220 V Power 380 V or A.C., Lighting 110 V Power 380 V If A.C. state frequency 50 c/s

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 - Generators, are they compound wound Yes, and level compounded under working conditions Yes

Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole -

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule Yes Position of Generators E.R. one port s. centre and

two stbd.s. fwd. and aft. Emergency generator Mainmast house Port s.

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 Platform E.R. forward centre.

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 hydropertinax, if of synthetic insulating material is it an Approved Type -, 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 Three pole automatic circuit breakers with over current undervoltage relay, overload time relay and reverse power relay

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Three-pole circuit breaker with o/c relay, 3 pole switch with fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 20 ammeters 3 voltmeters 3 synchronising devices. For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided - Preference Tripping, state if provided Yes, and tested Yes

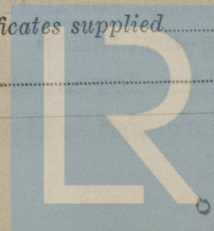
Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes make of fuses Siemens-Schuckert, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 15% 500 A & 700 A, and at what current do the reverse current protective devices operate 8% 35 A & 49 A 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 3.0 volts. Are all paper 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 No, if so, are they adequately protected - State type of cables (if in conduit this should also be stated) in machinery spaces V.I.R. L.C.A., galleys V.I.R. L.C.A.

and landries V.I.R. L.C.A. State how the cables are supported or protected In engine room, gangways and in other place cables are supported on perforated steel plates; in cargo holds cable are led in closed iron ducts

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 Have refrigeration fan motors been constructed under survey Yes and test certificates supplied Yes Are the motors accessible for maintenance at all times Yes



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Lloyd's Register

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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 Accumulation battery located on locker on bridge deck

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, fitted and adequately ventilated as per Rule. Yes, state battery capacity in ampere hours. 145 Ah Where required to do so does it comply with 1948 International Convention. Yes

Lighting, is fluorescent lighting fitted. Yes If so, state nominal lamp voltage. 110 V and compartments where lamps are fitted.

Engine room, galley, pantries

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

Searchlights, No. of. 9, whether fixed or portable. fixed, are they of the carbon arc or of the filament type. filament type

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

Lightning Conductors, where required are they fitted as per Rule.

Ships carrying Oil having a Flash Point of 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. Yes Are the fittings for pump

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

E.S.D., if fitted state maker. Kelvin Hughes location of transmitter and receiver. Pump room betw. fr. 126-127-Chart 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.	
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	1	Siemens-Schuckert A.G.	240	400	435	500	V6M	Klockener-Humboldt-Deutz AG
	2	"	336	400	606	500	BV6M	"
EMERGENCY ROTARY TRANSFORMER	1	Siemens-Schuckert A.G.	52	400	94	1000	A6M 517	"

#### GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in feet.	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	1	240	3	3x95	435	492	18	Varnished Cambric	L.C.S.
"	2	336	4	3x95	609	656	15	"	"
EMERGENCY GENERATOR	1	52	1	3x50	94	107	6	"	"
ROTARY TRANSFORMER: MOTOR									
"									

#### MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.									
S.B.Engine room fanr	P1	1	3x70	52,2	63	10	V.I.R.	L.C.S.	
S.B.Heavy oil service pumps	P2	1	3x10	18,4	20	30	"	"	
S.B.Transfer pumps	P3	1	3x35	38,6	40	20	"	"	
S.B.Boiler	P4	1	3x25	32,0	32	25	"	"	
S.B.Separator plant	P5	1	3x70	52,3	63	10	"	"	
S.B.Separator electr.heaters	P6	1	3x95	74	76	18	"	"	
S.B.Auxiliary machines	P7	1	3x50	47,8	51	28	"	"	
S.B.Hydrophon pumps aft	P8	1	3x50	47	51	40	"	"	
S.B.Water pumps aft	P9	1	3x70	112	135	25	"	"	
S.B.Workshop	P10	1	3x16	20,6	24	15	"	"	
S.B.Refrigerating plant	P11	1	3x25	31	32	80	"	"	
S.B.Hydrophon pumps-amidship	P12	1	3x35	39,3	40	80	"	"	
S.B.Water pumps-amidship	P13	1	3x50	107	107	80	Varnish. cambric	"	
S.B.Cargo winches-foreship	P14	1	3x95	137,5	164	100	V.I.R.	"	
S.B.Cargo winches-amidship	P15	1	3x95	137,5	164	60	"	"	

#### DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.		No. in Parallel per Pole.	CONDUCTORS. Sectional Area or No. and Dia. of Strands. sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in feet.	INSULATION.	PROTECTIVE COVERING.
				In the Circuit.	Rule.			
S.B.Cargo winches-aft	P16	1	3x95	137,5	164	25	Varnish. cambric.	L.C.S.
S.B.Hold fans	P17	1	3x35	30 ✓	40	80	V.I.R.	"-
S.B.Hi press fans-aft	P18	1	3x50	96,5	107	40	Varnish. cambric.	"-
S.B.Galley	P19	1	3x95	64 ✓	76	40	V.I.R.	"-
S.B.Heaters-amidship	P20	1	3x70	50 ✓	63	60	"-	"-
S.B.Heaters-amidship	P21	1	3x70	39 ✓	63	60	"-	"-
S.B.Hi press fans amidship	P22	1	3x50	43,5	51	90	"-	"-
S.B.Boat winches	P23	1	3x25	32 ✓	32	50	"-	"-
S.B.Pantry aft	P24	1	3x25	25,2	32	50	"-	"-
S.B.Pantry-amidship	P25	1	3x10	20	20	110	"-	"-
S.B.Refrigerated cargo	P26	2	3x70	218,4	270	75	Varnish. cambric	"-
S.B.Refrigerated cargo	P27	2	3x70	218,4	270	75	"-	"-
Battery charging board	EL	1	3x4	9,2	16	20	V.I.R.	"-
Main lighting switchboard	L1	2	3x70	250	294	45	Varnish. cambric	"-
S.B.Lighting engine room	L1A	1	3x10	19,4	20	25	V.I.R.	"-
"	L1B	1	3x10	19,4	20	25	V.I.R.	"-
"	L1C	1	3x10	19,4	20	25	V.I.R.	"-
"	L1D	1	3x10	19,4	20	25	"-	"-
"	L1E	1	3x10	19,4	20	25	"-	"-
"	L1F	1	3x10	19,4	20	25	"-	"-
"	L1G	1	3x10	19,4	20	25	"-	"-
"	L1H	1	3x10	19,4	20	25	"-	"-
Lighting switchboard amidship	L2	1	3x70	17,3	135	90	Varnish. cambric.	"-
S.B.Light nav. & upp. bridge dk	L2A	1	3x16	21,5	24	20	V.I.R.	"-
"	L2B	1	3x10	17,2	20	15	V.I.R.	"-
"	L2C	1	3x25	29,1	32	30	"-	"-
"	L2D	1	3x10	17,2	20	20	"-	"-
"	L2E	1	3x10	16,8	20	20	"-	"-
"	L2F	1	3x10	16,8	20	20	"-	"-
"	L2G	1	3x10	16,8	20	20	"-	"-
"	L2H	1	3x10	16,8	20	20	"-	"-
S.B. -"- refrig. cargo space	L2J	1	3x10	17,6	20	10	"-	"-
S.B.Navigating lights	NL	1	3x2,5	2	10	33	"-	"-
Suez chanal search lights		1	2x10	27 ✓	(28)	80	"-	"-



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.

**GRAPHISTE SPLIT**  
**SPLIT**

Electrical Contractors. Date 16.10.60

#### COMPASSES.

Have the compasses been adjusted under working conditions.

**GRAPHISTE SPLIT**  
**SPLIT**

Builder's Signature. Date 16.10.60

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. M.S. "MONTUSZKO"

Plans. Are approved plans forwarded herewith. - If not, state date of approval. -

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

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

The electrical equipment of this vessel has been installed under Special Survey in accordance with the Rules for Electrical Equipment, approved plans and Secretary's letters.

The material and workmanship are good.

On completion, the installation was examined under full working conditions, the circuit megger tested, generators paralalled, reverse current trips, overloaded trips, all tested and found in order. The governors were tried under full load and found satisfactory.

This equipment is, in my opinion suitable for a vessel to be classed with this Society.

Total Capacity of Generators 964 Kilowatts.

The amount of Fee ... £ 146-1-11 :  
and Din. 80.473.-

When applied for,

19

When received,

19

Travelling Expenses (if any) £ :

Surveyor to Lloyd's Register of Shipping.

(Ing. M. Brajnović)

Committee's Minute FRIDAY - 2 DEC 1960

Assigned

See Rpt. 1.