

Rpt. 4b

Date of writing report 10.10.1960 Received London 12 Port of SPLIT No. 2254
Survey held at SPLIT No. of visits 28 In shops 5.3.1960 Last date 5.9.1960
On vessel 28 First date 30.3.1960 Last date 28.9.1960

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 91505 Name m.s. "PADEREWSKI" Gross tons 7277.02
Owners POISKIE LINIE OCEANICZNE Managers Messrs. Brodogradilište "SPLIT" Port of Registry GDYNIA Nett 4130.53
Hull built at SPLIT By Messrs. Brodogradilište "SPLIT" Yard No. 161 Year Month 1960-10
Main Engines made at TORINO By Messrs. FIAT SGM Eng. No. 4344 When 1960
Gearing made at Zagreb-Oil Fired By Messrs. TVORNICA PARNIH KOTLOVA 1524 1959
Donkey boilers made at Kiel-Exhaust gas By Messrs. KIELER HOWALDTSWERKE AG 404 1959
Machinery installed at SPLIT By Messrs. Brodogradilište "SPLIT" When 1960

Particulars of restricted service of ship, if limited for classification

Particulars of vegetable or similar cargo oil notation, if required Carrying vegetable oil in midship deep tanks

Is ship to be classed for navigation in ice? Yes Is ship intended to carry petroleum in bulk? No
Is refrigerating machinery fitted? Yes If so, is it for cargo purposes? Yes Type of refrigerant Primary: Ammonia
Medium for cooling
Chamber: Brine
Is the refrigerating machinery compartment isolated from the propelling machinery space? - Is the refrigerated cargo installation intended to be classed? Yes

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines One No. of propellers One Brief description of propulsion system One oil engine directly coupled to the intermediate and propeller shaft.

MAIN RECIPROCATING ENGINES. Licence Name and Type No. "FIAT" airless injection C756 S supercharged
See Rpt. Genoa No. 24919

No. of cylinders per engine 2 Dia. of cylinders stroke(s) 2 or 4 stroke cycle Single or double acting Single or double acting

Maximum approved BHP per engine at RPM of engine and RPM of propeller.

Corresponding MIP (For DA engines give MIP top & bottom) Maximum cylinder pressure Machinery numeral

Are the cylinders arranged in Vee or other special formation? If so, number of crankshafts per engine

TWO STROKE ENGINES. Is the engine of opposed piston type? If so, how are upper pistons connected to crankshaft?

Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? No. and type of mechanically driven scavenge pumps or blowers per engine and how driven

No. of exhaust gas driven scavenge blowers per engine Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action?

If a stand-by or emergency pump or blower is fitted, state how driven No. of scavenge air coolers Scavenge air pressure at full power Are scavenge manifold explosion relief valves fitted?

FOUR STROKE ENGINES. Is the engine supercharged? Are the undersides of the pistons arranged as supercharge pumps? No. of exhaust gas driven blowers per engine No. of supercharge air coolers per engine Supercharge air pressure Can engine operate without supercharger?

TWO & FOUR STROKE ENGINES--GENERAL. No. of valves per cylinder: Fuel Inlet Exhaust Starting Safety Is the engine equipped to operate on heavy fuel oil? Yes

Material of cylinder covers Material of piston crowns Overall diameter of piston rod for double acting engines Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? Frames? Entablature? Is the crankcase separated from the underside of pistons? Is the engine of crosshead or trunk piston type? Total internal volume of crankcase No. and total area of explosion relief devices Are flame guards or traps fitted to relief devices? Is the crankcase readily accessible? If not, must the engine be removed for overhaul of bearings, etc? Is the engine secured directly to the tank top or to a built-up seating? built up-seating How is the engine started?

Can the engine be directly reversed? If not, how is reversing obtained?

Has the engine been tested working in the shop? How long at full power?

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system State barred speed range(s), if imposed

for working propeller 65-76 RPM For spare propeller Is a governor fitted? Is a torsional vibration damper or detuner fitted to the shafting?

Where positioned? Type No. of main bearings Are main bearings of ball or roller

type? Distance between inner edges of bearings in way of crank(s) Distance between centre lines of side cranks or eccentrics of opposed piston engines Crankshaft type: Built, semi-built, solid. (State which)

Diameter of journals Diameter of crankpins Centre Breadth of webs at mid-throw Axial thickness of webs Side Pins Minimum

If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals Approved Webs Tensile strength Radius of gyration

Diameter of flywheel Weight Are balance weights fitted? Total weight Minimum approved tensile strength Material

Diameter of flywheel shaft Minimum approved tensile strength

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which)

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MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines Open or closed cycle BHP per set at RPM of output shaft

How is drive transmitted to propeller shaft?

ARRANGEMENT OF TURBINES. HP drives at RPM HP gas inlet temperature pressure
(A small diagram should be attached showing gas cycle.)
IP drives at RPM IP gas inlet temperature pressure
LP drives at RPM LP gas inlet temperature pressure

No. of air compressors per set Centrifugal or axial flow type? Material of turbine blades Material of compressor blades No. of air coolers per set No. of heat exchangers per set How are turbines started?

How is reversing effected? Are the turbines operated in conjunction with free piston gas generators?

Total No. of free piston gas generators Diameter of working pistons Diameter of compressor pistons No. of double strokes per

minute at full power Gas delivery pressure Gas delivery temperature Have the turbines and attached equipment been tested working

in the shop? How long at full power?

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)

No. of generators KW per generator at RPM AC or DC? Position

No. of propulsion motors SHP per motor at RPM Position

How is power obtained for excitation of generators? Motors?

REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)

Is gearing of single or double helical type? If single, position of gear thrust bearing Is gearing of epicyclic type?

PCD of pinions: First reduction Second reduction PCD of wheels: First reduction Main

Material of pinions Tensile strength Material of wheel rims Tensile strength

Are gear teeth surface hardened? How are teeth finished? Diameter of pinion journals Wheel shaft

journals Are the wheels of welded construction? Is gearcase of welded construction? Has the wheel/gearcase been heat treated on completion

of welding? Where is the propeller thrust bearing located? Are gear bearings of ball or roller type?

CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting give brief

description and, for clutches, state how operated

Can the main engine be used for purposes other than propulsion when declutched? If so, what?

STRAIGHT SHAFTING. Diameter of thrustshaft See Rpt. Genoa No. 24919 Minimum approved tensile strength

Shaft separate or integral with crank or wheel shaft? Diameter of intermediate shaft 396 mm Material S.M. Steel

Minimum approved tensile strength 44 kg/sq.cm. Diameter of screwshaft cone at large end 474 mm Is screwshaft fitted with a continuous liner? Yes

Diameter of tube shaft. (If these are separate shafts) Is tube shaft fitted with a continuous liner in way of stern tube Thickness of screw/tube shaft liner at

aft: 25.5 mm bearings fwd: 24.5 mm Thickness between bearings 19 mm Material of screwshaft S.M. Steel Minimum approved tensile strength 44 kg/s

Is an approved oil gland fitted? If so, state type Length of bearing next to and supporting propeller Aft: 2000 mm Fwd: 1845 mm

Material of bearing Lignum vitae In multiple screw vessels is the liner between stern tube and A bracket continuous? If not, is the exposed length of shafting between

liners readily visible in dry dock? -

PROPELLER. Diameter of propeller 5000 mm Pitch 3875 mm Built up or solid solid Total developed surface 11.0 sq.m.

No. of blades 4 Blade thickness at top of root fillet 9.10" Blade material Bronze Moment of inertia of dry propeller -

If propeller is of special design, state type Is propeller of reversible pitch type? If so, is it of approved design?

State method of control Material of spare propeller iron Moment of inertia

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine Can they be declutched? -

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) Two 220 m³/h, el. motor, E.R.p.s. fwd, inboard and outboard Kiel Cert. No. 60/4248 and 60/4249; One 15 m³/h, diesel, platform E.R. p.s. Hamburg Cert. No. 59/3688.

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) Two 10.000 litres. capacity each, E.R. platform p.s. fwd, outb. and inb. Köln Cert. No. 60/60 and 60/61; One 250 litres cap. E.R. stbd.s. centre Hannover Cert. No. 59/374; One 60 litres. cap. E.R. platform p.s. Spt. Cert. No. 3250; One 60 litres. Pump room stbd.s. fwd. Hannover Cert. No. 59/437; One 60 litres. Mainmast h.p.s. Hannover Cert. No. 59/546

How are receivers first charged? by emergency hand compressor Maximum working pressure of starting air system 30 kg/sq.cm Are the safety devices in

accordance with the Rules? Yes Has the starting of the main engines been tested and found satisfactory? Yes

COOLERS. No. of main engine fresh water coolers Three No. of main engine lubricating oil coolers Two

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) -

INDEPENDENT PUMPS Name below essential pumps, state position and how driven. Give capacity of bilge pumps.	Service for which each pump is connected to be marked thus X												
	SUCTION							DELIVERY					
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	Fresh Water Cooling	Sea	Feed Tanks	Lub. Oil	Deep tank	Boiler Feed	Salt Water Cooling	Fresh Water Cooling	Oil Fuel Tanks
Bilge rec. p. E.R. stbd.s.	X	X	X										
El. driv. 50/100 m ³ /h													
Genserv. centrif. p. E.R.													
stbd.s. El. dr. 80 m ³ /h							X	X	X				
Ballast centr. p. E.R. stbd.s.													
El. driven 200/50 m ³ /h	X	X	X										
Veg. oil centr. p. Pump R.													
p.s. El. driv. 100 t/h								X					
Bilge rec. p. Pump R. centre													
El. driven 100/50 t/h			X	X			X						
Ballast centr. p. Pump R. stbd.													
s. El. driv. 200/50 m ³ /h			X	X			X						
Condens. circul. p. for refr.													
car. PR ps El. dr. 120 t/h each							X						
Salt w. circul. p. E.R. p.s.													
fwd. El. dr. 300 m ³ /h each							X						
Fresh w. circul. E.R. p.s. fwd.											X		
El. driv. 300 m ³ /h each													
Lub. oil screw p. E.R. stbd.													
fwd. El. dr. 300 t/h each								X					
Boil. feed piston p. stbd.s.													
aft El. driv. 4 t/h each													
Booster heavy fuel oil p.													
ER. stbd.s. El. dr. 4 t/h				X									
Aux. fresh & salt w. circ. p.													
ER stbd.s. El. dr. 40 t/h						X	X				X	X	

Hold No. 1: Two 83/74 p.s. aft.; Hold No. 2: Two 83/74 p.s. fwd.; Two 95/86 p.s. aft.; Hold No. 3: Two 95/86 p.s. fwd.; Two 95/86 p.s. aft.; Hold No. 4: Two 95/86 p.s. fwd. and two 95/86 p.s. aft.; Hold No. 5: Two 89/80 p.s. fwd. and two 89/80 p.s. aft.; Port Deep t.: One 100/108 p.s. aft.; Stbd. Deep t.: One 100/108 p.s. aft.; Pump room: Two 89/80 p.s. stbd. aft. One 133/125 (Bilge) One 133/125 (Ballast) In tunnel One 89/80 aft ps. One 108/100 stbd.s.

No. and size connected to main bilge line in main engine room

Size and position of direct bilge suction in machinery spaces

One 133/123 stbd.s. fwd. Size and position of emergency bilge suction in machinery spaces One 267/254 centre fwd.

Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? - Do the piping arrangements comply with the Rules including

special requirements for ships carrying petroleum in bulk, cargo oil or classed for navigation in ice? (strike out words not applicable).

STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
E.R. stbd.s. fwd.	BV6M 536	Messrs. Ad. Stru Hamburg	No. 60/1364	Generator 336 kw
E.R. Stbd.s. aft	V6M 536	"	No. 60/1262	Generator 240 kw
E.R. Port s. fwd.	BV6M 536	"	No. 60/1363	Generator 336 kw
Main mast house p.s.	A6M 517	"	No. 60/1466	Generator 52 kw

Is electric current used for essential services at sea? Yes

One - 336 kw If so, state the minimum No. and capacity of generators required in order that the ship may operate

Is an electric generator driven by Main Engine? -

STEAM INSTALLATION. No. of donkey boilers burning oil fuel One W.P. 7 kg/sq.cm. Type Cylindrical Scotch boiler

Position Platform centre aft

Is a superheater fitted? No Are these boilers also heated by exhaust gas? No No. of donkey boilers heated by exhaust gas only One W.P. 7 kg/sq.cm.

Type La Mont Position Funnel Can the exhaust heated boilers deliver steam directly to

the steam engine or do they operate only as economisers in conjunction with oil fired boilers? Economiser Port and No. of report on donkey

boilers Kiel Rpt. No. 2319 (Exhaust gas) Is steam essential for operation of the ship at sea? No Are any steam pipes over 3 ins. bore? - If so, what is their

material? - For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? Yes No. of oil burning pressure

One on boiler No. of steam condensers - No. of Evaporators One

STEERING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) H 7695/6; Four 7" cast iron hydraulic

cylinders and F.S. rams, two H.P. 9 Hele Shaw Pumps, Stbd.s. K.11888 and port s. K.11889; Two elec. motors stbd.s. Nos. M.302891 and Port s. M.302890 made by Messrs. Laurence Scott & Electromotors Ltd.

Have the Rules Requirements for fire extinguishing arrangements been complied with? Yes Brief description of arrangements CO2 Kidde Extinguishing system in

E.R. and P.R. - 10 pieces of 10 litres of froth; 2 pieces of 45 litres of froth and 5 pieces of CO2 of 5 kgs; PUMP ROOM 2 pieces of 10 litres of froth and 2 pieces of litres of powder.

Refrigerated plant: Two pieces of CO2 of 5 kgs

Has the spare gear required by the Rules been supplied? Yes Has all the machinery been tried under full working conditions and found satisfactory? Yes Date and duration of full-

power sea trials of main engines 26.9.1960 - 4 hours Does this machinery installation contain any features of a novel or experimental nature? (Give particulars)

The foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable).

GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The machinery of this vessel has been installed under Special Survey in accordance with the Rules, the Society's approved plans and Secretary's letters. The material and workmanship are good. On completion of installation, the main engine fitted with exhaust gas driven blowers, auxiliary machinery, steering gear and windlass have been examined under full working conditions both alongside quay and under full power at sea with satisfactory results.

The Donkey boilers have been satisfactorily installed on board the ship, accumulation test on the scotch boiler carried out, easing gear is fitted to chests of both boilers, two safety valves have been fitted on the exhaust gas boiler and safety valves of both boilers have been adjusted under steam: a/ Scotch boiler to 7 kg/sq.cm pressure Distance signs: P = 17.1 mm stbd = 15.5 mm
b/ Exhaust gas La Mont to 7.8 kg/sq.cm. Distance signs: P = 16.1 mm stbd = 19.0 mm

A notice board has been fitted at the Control station stating that the Main Engine is not to be operated continuously between 65-76 RPM and the Engine tachometer has been marked accordingly

The machinery is, in my opinion eligible to be classed in the Society's Register Book with the record of 1 LMC 10,60 Oil Engine TS(CL) and AB (oil fuel) and (ex.g.)

Engine Surveyor to Lloyd's Register of Shipping.
(Ing. M. Brajnović)

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS See Rpt. Genoa No. 24919

CRANKSHAFT ~~OK NOT FOR SHIP~~ See Rpt. Genoa No. 24919

FLYWHEEL SHAFT - " -

THRUST SHAFT - " -

GEARING -

INTERMEDIATE SHAFTS LLOYD'S Spt. No. 1510M

LLOYD'S Spt. No. 1510M/FIN. MACH.

LLOYD'S SPT. No. 1794M

SCREW AND TUBE SHAFTS LLOYD'S SPT. No. 1794M/FIN. MACH. FIT. I.

PROPELLERS LLOYD'S London Cert. No. D 70771

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? Yes

If so, state name of vessel m.s. CHOPIN & m.s. ZAMENHOF and m.s. MONTIUSZKO

Date of approval of plans for crankshaft - Straight shafting 22.11.1957

Gearing 6.2.59; 12.8.59; 20.3.59;

Separate oil fuel tanks -

Pumping arrangements 5.6.59, 23.10.59

Oil fuel arrangements

Cargo oil pumping arrangements

Air receivers

See C. Koln No. 60/60; No. 60/61 See Rpt. Rka No. 858 (Kiel No. 2319)

See C. Hannover No. 59/374

See C. Split No. 3230

Dates of examination of principal parts:-

Fitting of stern tube 1.7.60

Fitting of propeller 8.7.60

Completion of sea connections 20.9.60

Alignment of crankshaft in main bearings 23.7.60; 6.8.60

Engine chocks & bolts 6.8.60

Alignment of gearing -

Alignment of straight shafting 6.8.60

Testing of pumping arrangements 13.9.60; 5.9.60; 6.9.60

Oil fuel lines 15.7.60; 5.9.60

Donkey boiler supports 10.8.60 (Ex. gas)

Steering machinery 26.9.60

Windlass 26.9.60

Date of Committee

FRIDAY - 2 DEC 1960

Decision

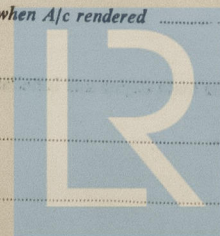
See Rpt. 1.

Special Survey Fee £156- 0- 0

and Din. 87.360.-

Expenses

Date when A/c rendered



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Lloyd's Register
Foundation

Rpt. 4b

Date of writing report

Survey held at

FIRST

No. in R.B.

Owners

Hull built at

Main Engines made

Gearing made at

Donkey boilers made

Machinery installed

Particulars of restri

Particulars of veget

Is ship to be classed

Is refrigerating mac

Is the refrigerating

The following part
wording is not app
report need not be

No. of main engine

MAIN RECI

No. of cylinders per

Maximum approv

Corresponding MI

Are the cylinders

TWO STROKE

Is the exhaust dis

engine and how

No. of exhaust ga

If a stand-by or

power 0,56

FOUR STROKE

engine

TWO & FOUR

Material of cylin

Cooling medium

Is the rod fitted

underside of pisto

devices 6-8

overhaul of bearin

Can the engine

Has the engine

CRANK & FL

for working prop

Where position

white

metal

Crankshaft type

Diameter of jour

If shrunk, radial

Diameter of fly

Diameter of fly

Flywheel shaft: