

Rpt. 4b

Date of writing report 29.5.62 Received London 46 Port Rijeka No. 1494
 Survey held at Rijeka No. of visits In shops 46 3.3.61 24.4.62
 On vessel 36 First date 1.12.61 Last date 20.5.62

28 JUN 1962

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 43743 Name M.V. " WYSPIANSKI " Gross tons 5731
 Owners Polish Government Managers Polish Ocean Lines Port of Registry Gdynia
 Hull built at Rijeka By Brodogradiliste 3.Maj Yard No. 482 Year Month 1962 5
 Main Engines made at Rijeka By Brodogradiliste 3.Maj Eng. No. 006 When 1961
 Gearing made at - By -
 Donkey boilers made at Zagreb By Tvornica Parnih Kotlova Blr. Nos. 2904 and 2890 When 1961
 Machinery installed at Rijeka By Brodogradiliste 3.Maj When 1962 5

Particulars of restricted service of ship, if limited for classification

Particulars of vegetable or similar cargo oil notation, if required

Is ship to be classed for navigation in ice? no Is ship intended to carry petroleum in bulk? no
 Is refrigerating machinery fitted? yes If so, is it for cargo purposes? no Type of refrigerant Dichlorodifluoromethane
 Is the refrigerating machinery compartment isolated from the propelling machinery space? - Is the refrigerated cargo installation intended to be classed?

F.E. FROM ACCTS.	3 JUL 1962
F.E. FROM ADMIN/F	9/7
PLANS RECD	
CERTS. RECD.	
TO RPTS. DEPT.	

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 Oil engine driving direct through line shafting to screw propeller

MAIN RECIPROCATING ENGINES. Licence Name and Type No. 3.Maj-Sulzer Type 6RD76/155 Cyl.No. 42826-31

No. of cylinders per engine 6 Dia. of cylinders 760 mm stroke(s) 1550 mm 2 or 4 stroke cycle 2 Single or double acting single

Maximum approved BHP per engine 7800 at 119 RPM of engine and 119 RPM of propeller.

Corresponding MIP 115 lb/in² (For DA engines give MIP top & bottom) Maximum cylinder pressure 850 lb/in² Machinery numeral 1560

Are the cylinders arranged in Vee or other special formation? no If so, number of crankshafts per engine -

TWO STROKE ENGINES. Is the engine of opposed piston type? no 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? Ports No. and type of mechanically driven scavenge pumps or blowers per engine and how driven -

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

If a stand-by or emergency pump or blower is fitted, state how driven - No. of scavenge air coolers two Scavenge air pressure at power 0,595 kg/cm² Are scavenge manifold explosion relief valves fitted? yes

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 one Inlet - Exhaust - Starting one Safety one

Material of cylinder covers cast steel Material of piston crowns forged steel Is the engine equipped to operate on heavy fuel oil? yes

Cooling medium for :-Cylinders fresh water Pistons Lub.oil Fuel valves fresh water Overall diameter of piston rod for double acting engines -

Is the rod fitted with a sleeve? - Is welded construction employed for: Bedplate? yes Frames? yes Entablature? yes Is the crankcase separated from the

underside of pistons? yes Is the engine of crosshead or trunk piston type? yes Total internal volume of crankcase 86,4 m³ No. and total area of explosion relief

devices 6-10,380 cm² Are flame guards or traps fitted to relief devices? shields Is the crankcase readily accessible? yes 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? tanktop How is the engine started? compressed air

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

Has the engine been tested working in the shop? yes How long at full power? 13 hours

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 15.8.60 State barred speed range(s), if imposed

for working propeller none For spare propeller none Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting? no

Where positioned? - Type - No. of main bearings 7 Are main bearings of ball or roller

type? no Distance between inner edges of bearings in way of crank(s) 1002 mm Distance between centre lines of side cranks or eccentrics of opposed piston engines -

Crankshaft type: Built, semi-built, solid. (State which) Semi-built

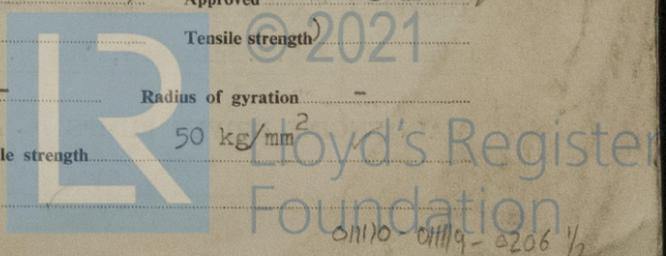
Diameter of journals 550 Diameter of crankpins Centre 550 mm Breadth of webs at mid-throw 900 mm Axial thickness of webs 340 mm

If shrunk, radial thickness around eyeholes 252,5 mm Are dowel pins fitted? no Crankshaft material Journals SM Steel Minimum 50 kg/mm²

Diameter of flywheel 2365 mm Weight 1300 kg Are balance weights fitted? no Total weight - Radius of gyration -

Diameter of flywheel shaft 550 mm Material SM Steel Minimum approved tensile strength 50 kg/mm²

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



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01110 01119-0206 1/2

MAIN GAS TURBINES. Name and Type No. _____ at _____ RPM of output shaft _____

No. of sets of turbines _____ Open or closed cycle _____ BHP per set _____

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 _____ 550 mm ✓ Material SM.Steel ✓ Minimum approved tensile strength _____ 50 kg/mm² ✓

Shaft separate or integral with crank or wheel shaft? _____ Integral with flywheel shaft ✓ Diameter of intermediate shaft _____ 400 mm ✓ Material SM.Steel ✓

Minimum approved tensile strength _____ 44 kg/mm² ✓ Diameter of screwshaft cone at large end _____ 498 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 bearings _____ 25 mm ✓ Thickness between bearings _____ 24 mm ✓ Material of screw/tube shaft SM.Steel ✓ Minimum approved tensile strength _____ 44 ✓

Is an approved oil gland fitted? _____ no ✓ If so, state type _____ Length of bearing next to and supporting propeller _____ 2520 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 _____ 5200 mm ✓ Pitch _____ 4647 var ✓ Built up or solid _____ solid ✓ Total developed surface _____ 9.87 ✓

No. of blades _____ 4 ✓ Blade thickness at top of root fillet _____ 207 mm ✓ Blade material _____ Novoston alloy ✓ Moment of inertia of dry propeller _____ 49250 kg/m² ✓

If propeller is of special design, state type _____ Is propeller of reversible pitch type? _____ no ✓ If so, is it of approved design? _____

State method of control _____ Material of spare propeller _____ bronze ✓ Moment of inertia _____ 59240 kg/m² ✓

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine _____ none ✓ Can they be declutched? _____

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) _____ Two main 239 m³/hr Stbd. side E.R. ✓
 Southampton Nos. D16979 and D 17183 ✓ One-Diesel driven hand start stbd. side E.R. Kiel No. 60/4925 ✓

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) _____ Two Main/Starboard side E.R. ✓
 8.5 m³ Lloyds Test Rka. No. 9473 and 9686 ✓ Aux. Two s.s. E.R. Lloyds Test Spt. No. 3431 and 3438 ✓

How are receivers first charged? _____ Hand Start diesel driven compressor ✓ Maximum working pressure of starting air system _____ 30 kg/cm² ✓ Are the safety devices 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 _____ two ✓ 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 _____ 4 off-Two D.O. Daily service, upper platform level after E.R. Bulkhead, One H.O. & One D.O. tank for boiler upper platform port side engine room ✓

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) _____ Fuel oil pressure pump only. ✓

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 tanks	D.O. Oil tanks	Boiler Feed	Salt Water Cooling	Fresh Water Cooling	Oil Fuel Tanks	Fire Main	Lub. Oil	Piston Cooling	D.O. tank
350 m ³ /hr. E.R. Starb. side forward ballast pump electric driven	X	X	X			X											X
85 m ³ /hr. E.R. Stbd. side																	X
Bilge and fire service E.D.	X	X	X			X								X			X
E.R. Stbd. side outboard																	X
fire main & wash deck E.D.						X								X			
E.R. forward stbd.																	
M.E. F.W. cooling E.D. 2 off.					X							X					
E.R. forward port																	
M.E. S.W. cooling E.D. 2 off.		X	X			X					X						X
Injection valve C.W. E.D. 28					X							X					
E.R. port side																	
M.E. Lubricating oil E.D. 2 off								X							X		
E.R. port side after bulkhead																	
F.O. transfer E.D.				X									X				
Boiler room																	
Exhaust gas boiler circulating																	
Boiler room																	
Boiler feed E.D. 2 off.							X			X							
D.O. transfer E.D.									X								X
Aux. F.W. cooling E.D.					X	X					X	X					
Aux. S.W. cooling E.D.					X	X					X	X					

BILGE SUCTIONS. No. and size in each hold, deep tank or pump room _____ No. 1-2 at 100 mm, No. 2-2 at 100 mm, No. 3 - 2 at 100 mm, No. 4-2 at 100 mm, No. 5- 1 at 100 mm

No. and size connected to main bilge line in main engine room _____ 2-100 mm p&s Ford. E.R., 3-100 mm Purifier space & p&s aft. In tunnel 2-100 mm F&A

In aux. engine room _____ Size and position of direct bilge suction in machinery spaces _____ 100 mm One-port side ford.; One stbd. side ford. of _____ Size and position of emergency bilge suction in machinery spaces _____ 250 mm suction forward (Main Circ.)

Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? _____ yes ✓ 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? _____ yes ✓

STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
Engine room Starboard forward	5BAH29 <i>Switzer</i>	Jugoturbina	Rka. 10096 ✓	400 KVA alternator
Engine room Starboard after	5BAH29	"	Rka. 10095 ✓	" "
Engine room port	5BAH22	"	Rka. 10435 ✓	250 KVA "
Engine room stbd. outb.	GKN <i>Gudmer hot</i>	Poppe GMBH Kiel-Pries	MHM. 60/561 ✓	2 stage air compressor
Tunnel aft	AVA2	petters	Falmouth S.C. 210 ✓	Emergency Fire Pump

Is electric current used for essential services at sea? _____ yes ✓ If so, state the minimum No. and capacity of generators required in order that the ship may operate at sea _____ One-400 KVA alternator ✓

Is an electric generator driven by Main Engine? _____ no ✓

STEAM INSTALLATION. No. of donkey boilers burning oil fuel _____ one ✓ W.P. _____ 7 kg/cm² ✓ Type _____ vertical water tube ✓

Position _____ Engine room lower platform port side forward ✓

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/cm² ✓

Type _____ La Mont WT ✓ Position _____ Funnel casing ✓ Can the exhaust heated boilers deliver steam directly to the steam range or do they operate only as economisers in conjunction with oil fired boilers? _____ Direct to range in conjunction with O.F. boiler ✓

Port and No. of report on donkey boilers _____ Rijeka 1268 and 1303 ✓

Is steam essential for operation of the ship at sea? _____ yes ✓ Are any steam pipes over 3 ins. bore? _____ yes ✓ If so, what is their material? _____ Copper ✓

For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? _____ yes ✓ No. of oil burning pressure units _____ one ✓ No. of steam condensers _____ none ✓ No. of Evaporators _____ One-vacuum distilling plant. ✓

STEERING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) _____ One -4 Ram electric hydraulic steering gear with two electric motor driven pumps No. HG 8121/2 Greenock Certificate No. 08102 ✓

Have the Rule Requirements for fire extinguishing arrangements been complied with? _____ yes ✓ Brief description of arrangements _____ Hoses and hydrants with jet and spray nozzles. CO₂ fixed system. Portable fire extinguishers. ✓

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 _____ 17.5.62. - 7 hrs. ✓

Does this machinery installation contain any features of a novel or experimental nature? (Give particulars) _____ No ✓

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 ship has been constructed and installed under Special Survey in accordance with the Society's Rules, Approved plans and Secretary's letters.

The materials and workmanship are good.

On completion of installation the machinery, boilers, steering gear and windlass were examined under full working conditions at sea with satisfactory results.

The auxiliary boilers were examined under steam and safety valves adjusted to 7 kg/cm² (100 lb/sq.in). An accumulation test was carried out on both boilers with satisfactory results.

The machinery of this ship is in my opinion eligible to be classed with the Society having the following notation:-

+LMC 5/62 T.S.C.L. 2 WT Aux.B. 7 kg/cm²

Fred. Burn
Engineer Surveyor to Lloyd's Register of Shipping.
(F.G. Burn)

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

RODS Connecting Rka. Nos. 7319, 8701, 8702, 8702, 8703, 8704, 8830
Piston KLN 60/801 5 off KLN 60/7991 One off

CRANKSHAFT ~~OR ROTOR SHAFT~~ Genoa SS 7826 GM 14.2.61

FLYWHEEL SHAFT) 1 485 BV 13.7.60

THRUST SHAFT) 485 Lloyds 5219 Win TDP 6-12-60 LR

GEARING For'd Length 2nd from forward 3rd from forward 4th from forward
Lloyds Spt. 5411 M Lloyds Spt. 2924 M Lloyds Spt. 2738M Lloyd's Spt. 2833M
INTERMEDIATE SHAFTS FD 16.1.62 MB FGB 28.6.61 SV 12.5.61 FGB 13.6.61
FGB 10.2.62 FGB 17.11.61 FGB 24.10.61 FGB 24.10.61
SCREW AND TUBE SHAFTS Lloyds Spt. 2307 M GM 11.12.60 FGB 31.10.61 Lloyds Spt. 2648M SV 23.3.61 FGB 29.9.61
working spare
PROPELLERS D 77098 Z 3356 RH Lloyds Lon ADH 16.2.61 Lloyds No. 72198 7.7.61 ABS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? yes If so, state name of vessel M.V. "Jozef Conrad"

Date of approval of plans for crankshaft 15.8.60 Straight shafting 14.7.60 Gearing - Clutch -

Separate oil fuel tanks - Pumping arrangements 27.9.60 Oil fuel arrangements -

Cargo oil pumping arrangements - Air receivers 11.8.60 Donkey boilers 21.4.59

Dates of examination of principal parts:-

Fitting of stern tube 1.12.61 Fitting of propeller 2.12.61 Completion of sea connections 2.12.61 Alignment of crankshaft in main bearings 27.4.61

Engine checks & bolts 27.4.62 Alignment of gearing - Alignment of straight shafting 3.4.62 Testing of pumping arrangements 12.5.62

Oil fuel lines 25.4.62 Donkey boiler supports 19.12.61 Steering machinery 17.5.62 Windlass 17.5.62

Date of Committee FRIDAY 13 JUL 1962 Eng. Constr. £ 266-0-0 + 5/10
Special Survey Fee -

Decision + LMC ES Mach. Inst. £ 148-0-0 + 1/10
ABS }
TS (CW) } 5.62
SPS }

Special attend. 17.200.-Din.
Expenses 18.980.-Din.

