

10.12.59 Received London Port Piraeus No. 8228
raeus & Syra No. of visits On vessel 28 First date 20.7.59 Last date 17.10.59

ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

50 Name "Georgios Manolakis" Gross tons 10061
naie Shipping Co.Ltd. Managers - Port of Registry Piraeus
m. By Deutsche Werft Reiherstiegwerft No. 1 Year Month
at Aug. By Masch.Augsburg-Nürnberg Eng. No. When 1939
- By - When
le at By Blr. Nos. When
d at By When

ed service of ship, if limited for classification
table or similar cargo oil notation, if required
d for navigation in ice? No. oil Is ship intended to carry ~~XXXXXX~~ in bulk? Yes.
chinery fitted? No. If so, is it for cargo purposes? - Type of refrigerant -
machinery compartment isolated from the propelling machinery space? - Is the refrigerated cargo installation intended to be classed? -

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 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 should be stated.

nes 1 No. of propellers 1 Brief description of propulsion system O.E.6 cyl.DA2S 600 mm.dia.x1100
PROCATING ENGINES. Licence Name and Type No. M.A.N. Type diesel. D6 ZU 60/110.
er engine 6 Dia. of cylinders 600 m/m. stroke(s) 1100 2 or 4 stroke cycle 2 Single or double acting Double.
ved BHP per engine 4100 at 116 RPM of engine and 116 RPM of propeller.
IP 5.3kg./cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 45 kg./cm² Machinery numeral 820
arranged in Vee or other special formation? No. If so, number of crankshafts per engine -

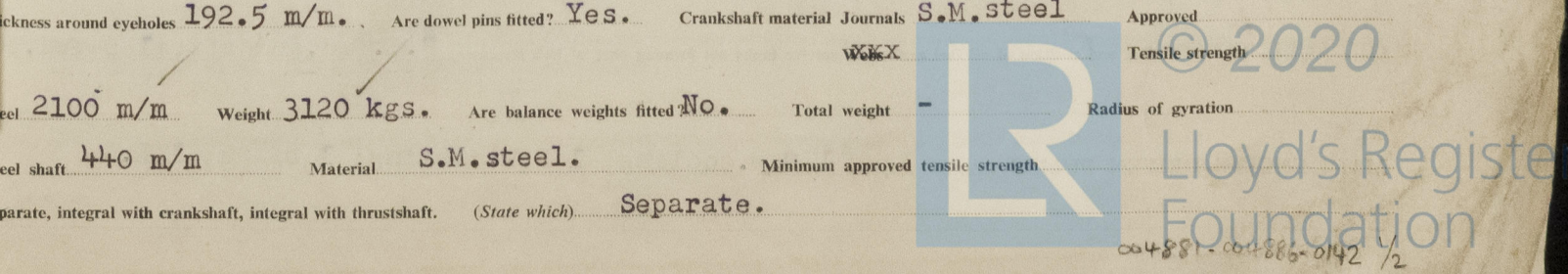
ENGINES. Is the engine of opposed piston type? No. If so, how are upper pistons connected to crankshaft? -
charged through ports in the cylinders of ~~XXXXXX~~ Yes. No. and type of mechanically driven scavenge pumps or blowers per
driven One through con.rod from crankshaft.
as driven scavenge blowers per engine None. Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? -
emergency pump or blower is fitted, state how driven No. No. of scavenge air coolers None. Scavenge air pressure at full
lbs./sq.in. scavenge manifold explosion relief valves fitted? Yes.

EX ENGINES ~~XXXXXX~~ Are the undersides of the pistons arranged as supercharge pumps? - No. of exhaust gas driven blowers per
No. of supercharge air coolers per engine - Supercharge air pressure - Can engine operate without supercharger? -

R STROKE ENGINES-GENERAL. No. of valves per cylinder: Fuel 3 Inlet - Exhaust - Starting 2 Safety 2
nder covers cast iron Material of piston crowns cast iron Is the engine equipped to operate on heavy fuel oil? No.
for : Cylinders water Pistons water Fuel valves oil Overall diameter of piston rod for double acting engines 200 m/m.
with a sleeve? No. Is welded construction employed for: Bedplate? No. Frames? No. Entablature? No. Is the crankcase separated from the
ons? Yes. Is the engine of crosshead ~~XXXXXX~~ type? Yes. Total internal volume of crankcase - No. and total area of explosion relief
O. Are flame guards or traps fitted to relief devices? No. Is the crankcase readily accessible? Yes. If not, must the engine be removed for
ngs, etc? No. Is the engine secured directly to the tank top or to a bulkhead? Yes. How is the engine started? Compressed air.
be directly reversed? Yes. If not, how is reversing obtained? -
been tested working in the shop? No. How long at full power?

YWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system - State barred speed range(s), if imposed
eller - For spare propeller - Is a governor fitted? Yes. Is a torsional vibration damper or detuner fitted to the shafting? -
? - Type - No. of main bearings 9 Are main bearings of ball or roller
Distance between inner edges of bearings in way of crank(s) 885 m/m. Distance between centre lines of side cranks or eccentrics of opposed piston engines -

Built, semi-built, solid. (State which) Semi-built.
als 420 m/m. Diameter of crankpins Centre 420 m/m. Breadth of webs at mid-throw 700 m/m. Axial thickness of webs 265 m/m.
Side - Web & Pins S.M. steel Minimum 45kg./sq.cm.
thickness around eyeholes 192.5 m/m. Are dowel pins fitted? Yes. Crankshaft material Journals S.M. steel Approved
sheel 2100 m/m Weight 3120 kgs. Are balance weights fitted No. Total weight - Radius of gyration
of flywheel shaft 440 m/m Material S.M. steel Minimum approved tensile strength
shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Separate.



MAIN GAS TURBINES. Name and Type No.

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

How is drive transmitted to propeller shaft?

ARRANGEMENT OF TURBINES. HP drives at RPM HP gas inlet temperature pressure

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

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

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

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

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

Material of pinions Tensile strength Material of wheel rims

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

Journals Are the wheels of welded construction? Is gearcase of welded construction? Has the wheel/gearcase been heat

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

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 400 m/m Material Siemens Martin Steel

Shaft separate or integral with crank or wheel shaft? Separate Minimum approved tensile strength 45 kg./sq.cm

Minimum approved tensile strength 45 kg./sq.cm Diameter of intermediate shaft 385 m/m Material S.M.St

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

bearings 22 m/m. Thickness between bearings 16 m/m. Material of screw/tube shaft S.M.Steel. Minimum approved tens

Is an approved oil gland fitted? No. If so, state type Length of bearing next to and supporting propeller 1582

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

liners readily visible in dry dock? -

PROPELLER. Diameter of propeller 4800 m/m Pitch 3400 m/m Built up or solid Solid. Total developed surface

No. of blades 4 Blade thickness at top of root fillet 253 m/m Blade material Bronze Moment of inertia of dry propeller

If propeller is of special design, state type No. Is propeller of reversible pitch type? No. If so, is it of approved design? -

State method of control - Material of spare propeller C.I. Moment of inertia

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) 1 stm.driven type MHV.40

205 ft.³/min. double acting 2 stroke type 2K-222-350mm. 25 A.T.U 22 ft³/min.driven from diesel

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) 2 each 12 m³ Port side for

How are receivers first charged? steam driven compressor Maximum working pressure of starting air system 350 lbs.

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 4 No. of main engine lubricating oil coolers 1

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure P.S.fwd.and aft,also fwd.p

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) 1 S.W.cooling; 1 F.W.cooling; 1 bilge; 1 L.O.

Service for which each pump is connected to be marked thus X

DEPENDENT PUMPS

pumps, state position and capacity of bilge pumps.

DEPENDENT PUMPS pumps, state position and capacity of bilge pumps.		SUCTION								DELIVERY								OUBD	Condenser	Cofferdam		
		Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	Fresh Water Cool- ing	Sea	Feed Tanks	Lub. Oil	FW DB Tanks	Boiler Feed	Salt Water Cool- ing	Fresh Water Cool- ing	Oil Fuel Tanks	Fire Main	Lub. Oil	Piston Cool- ing					
	p.s.							X							X							
mp	s.s.	X	X	X			X				X							X	X	X		
r pump	s.s.				X								X									
er pumps	s.s.				X								X									
rvice	s.s.					X	X								X				X			
/HR.	s.s.	X	X															X				
g	s.s.					X			X			X					X	X				
fore peak)							X								X			X			X	

S. No. and size in each hold, deep tank or pump room 1 at cofferdam frames 9-11, 50 mm; 1 at cofferdam frames

1 at cofferdam frames 27-28 at 71 mm.

Main duct to main bilge line in main engine room 6 at 90 mm.

In tunnel -

Size and position of direct bilge suction in machinery spaces 1 at 110 mm.p.s.from bilge pump.

Size and position of emergency bilge suction in machinery spaces 150mm.p.s.;direct from ballast pump.

last pump p.s. at 150 mm. dia

last system fitted with means for separating oily water on the overboard discharge side? Yes.

Do the piping arrangements comply with the Rules including

is for ships carrying petroleum in bulk, ~~which are not covered by the Rules~~ (strike out words not applicable). Yes.

STEAM & OIL ENGINE AUXILIARIES

Location of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
board	steam driven	Troy Engberg	-	20 kw.
board	steam driven	Deutsche Werft.	-	22 kw.
board	Diesel engine.	Kockom Man type	-	22 kg.
		G3VU42		

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

1 Is an electric generator driven by Main Engine? No.

ALLATION. No. of donkey boilers burning oil fuel 2 w.P. 176.4 lbs. Type Scotch Multitubular wet bottomed boilers

and stbd.aft.

Are these boilers also heated by exhaust gas? No. No. of donkey boilers heated by exhaust gas only? 1 w.P. 176.4 lbs.

Position in Main Engine Exhaust Manifold Can the exhaust heated boilers deliver steam directly to

Through O.F.Boiler Port and No. of report on donkey

or do they operate only as economisers in conjunction with oil fired boilers? Yes. 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

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

No. of steam condensers 1 No. of Evaporators 1 Capacity 12 tons/24 hours.

ALL electric 4054214 Type GAF 130 115 volt 65 amp. 5.9 k.w.

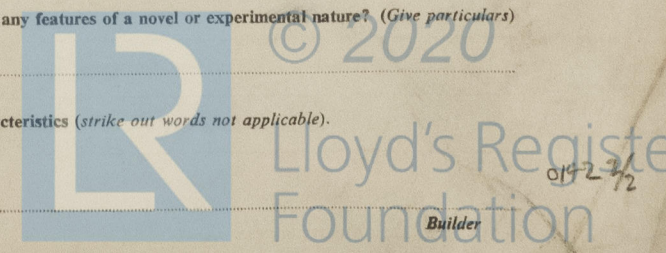
Requirements for fire extinguishing arrangements been complied with? Yes. Brief description of arrangements Fixed steam smothering;1-30 c.f.of sand

foam extinguisher;7portable fire extinguishers;ballast pump in fwd.P.R.attached to dk.water line.

ear 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

of main engines 10th Sept.59 1 hr.at 1/2 & 1/4 power & 6 hrs.full power.

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 recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained.

The Machinery and boilers of this vessel have been examined in accordance with Secretary's letter 24.9.59, approved plans and in accordance with the Society's Rules for Ships under survey. Scantlings of all machinery, boilers and piping have been verified against the Special Survey. Engine trials (manoeuvring and through the full range of revs) were witnessed and found satisfactory.

It is submitted that the machinery of this vessel is fit to be classed with the Society and have the notation LMC 10,59.

[Signature]
Engineer Surveyor to Lloyd's Register

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

RODS

CRANKSHAFT OR ROTORSHAFT

FLYWHEEL SHAFT

THRUSTSHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case?

If so, state name of vessel

Date of approval of plans for crankshaft

Straight shafting

Gearing

Clutch

Separate oil fuel tanks

Pumping arrangements

Oil fuel arrangements

Cargo oil pumping arrangements

Air receivers

Donkey boilers

Dates of examination of principal parts:—

Fitting of stern tube

Fitting of propeller

Completion of sea connections

Alignment of crank shaft in main bearings

Engine chocks & bolts

Alignment of gearing

Alignment of straight shafting

Testing of pumping arrangements

Oil fuel lines

Donkey boiler supports

Steering machinery

Windlass

Date of Committee

1 FRIDAY - 4 MAR 1960

Special Survey Fee

See Rpt 9

Decision

Expenses



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