

174 JUL 1958

Rpt. 4b

Date of writing report 18-6-58 Received London Port Haven Goringen No. 17406. Survey held at Goringen No. of visits In shops - On vessel 11 First date 25-10-57 Last date 11-6-58

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 43121 Name m. EMANUELA-C Gross tons 499.99 Owners Sarda Armatorielle Managers - Port of Registry Cagliari Year Month Hull built at Figueira da Foz & Goringen By Schepstroom-Moise Yard No. 276 When 1958-6 Main Engines made at Amsterdam By Werkspoor Eng. No. 2079 When 1957 Gearing made at - By - Donkey boilers made at - By - Blr. Nos. - When - Machinery installed at Goringen By Wolfhard & Wenzel When 1958 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? no If so, is it for cargo purposes? - Type of refrigerant - Is the refrigerating machinery compartment isolated from the propelling machinery space? - Is the refrigerated cargo installation intended to be classed? -

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 1 No. of propellers 1 Brief description of propulsion system Diesel

MAIN RECIPROCATING ENGINES. Licence Name and Type No. T.M.A.S. 336 - Amsterdam F.R. Report 21731

No. of cylinders per engine - Dia. of cylinders - stroke(s) - 2 or 4 stroke cycle - Single or double acting - Maximum approved BHP per engine 650 at 325 RPM of engine and 325 RPM of propeller. Corresponding MIP - (For DA engines give MIP top & bottom) Maximum cylinder pressure - Machinery numeral 130 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 -

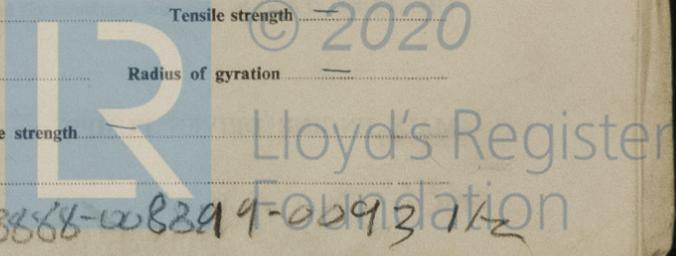
Material of cylinder covers - Material of piston crowns - Is the engine equipped to operate on heavy fuel oil? - Cooling medium for - Cylinders freshwater Pistons - Fuel valves - Overall diameter of piston rod for double acting engines - Is the rod fitted with a sleeve? - Is welded construction employed 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 18-3-57 State barred speed range(s), if imposed for working propeller - 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 -

Diameter of flywheel - Weight - Are balance weights fitted? - Total weight - Radius of gyration - Diameter of flywheel shaft - Material - Minimum approved tensile strength - Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) -



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
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 Material Minimum approved tensile strength

Shaft separate or integral with crank or wheel shaft? Diameter of intermediate shaft 197 Material S.M. Steel
Minimum approved tensile strength 44,000 psi Diameter of screwshaft cone at large end 197 Is screwshaft fitted with a continuous liner? no
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
Thickness between bearings Material of screw/tube shaft S.M. Steel Minimum approved tensile strength 44,000 psi
Is an approved oil gland fitted? yes If so, state type rubber ring Length of bearing next to and supporting propeller 660
Material of bearing cast iron 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 1920 Pitch 1200 Built up or solid solid Total developed surface

No. of blades 4 Blade thickness at top of root fillet 70 Blade material bronze Moment of inertia of dry propeller 388.85 kgm^2
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 353 kgm^2

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

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) 10 50 m^3/h, driven by 1000 hp aux engine - Port Cert 22365
No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) 20 1000 lbs
one port & one ahd - Dom. Cert 57/534
How are receivers first charged? hand started aux engine Maximum working pressure of starting air system 30 kg 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 1 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 twice tank fixed platform against EA bulkhead

MAIN ENGINE DRIVEN PUMPS (No. and Purpose)

Table with columns: INDEPENDENT PUMPS, SUCTION, DELIVERY. Rows include Bilge Main, Bilge Direct, Ballast Main, Oil Fuel, Fresh Water Cooling, Sea, Feed Tanks, Lub. Oil, Boiler Feed, Salt Water Cooling, Fresh Water Cooling, Oil Fuel Tanks, Fire Main, Lub. Oil, Piston Cooling.

BILGE SUCTIONS. No. and size in each hold, deep tank or pump room 40 3"
No. and size connected to main bilge line in main engine room 10 3"
In aux. engine room Size and position of direct bilge suction in machinery spaces 10 3"
Size and position of emergency bilge suction in machinery spaces 10 3"
Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? no 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

Table with columns: Position of each, Type, Made by, Port and No. of Rpt. or Cert., Driven Machinery (For electric generators, state output). Rows include starboard, port, forecabin.

Is electric current used for essential services at sea? no If so, state the minimum No. and capacity of generators required in order that the ship may operate at sea
Is an electric generator driven by Main Engine? yes

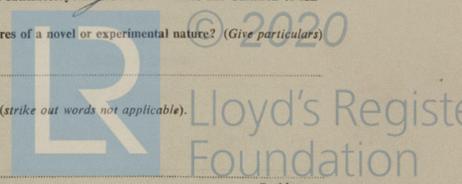
STEAM INSTALLATION. No. of donkey boilers burning oil fuel W.P. Type

Position
Is a superheater fitted? Are these boilers also heated by exhaust gas? No. of donkey boilers heated by exhaust gas only? W.P.
Type Position 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? Port and No. of report on donkey boilers
Is steam essential for operation of the ship at sea? 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? No. of oil burning pressure units
No. of steam condensers No. of Evaporators

STEERING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) Standberg electric hand-hydraulic gear - Copenhagen Cert dated 9-2-57

Have the Rule Requirements for fire extinguishing arrangements been complied with? yes Brief description of arrangements 3 firefoams & 9 lbs. 1 CO2 @ 10 kg 1 EA hose connection - in forecabin 1 firefan @ 9 lbs
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 11-6-58-5 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.

This engine and auxiliaries have been constructed and fitted under special survey in accordance with the approved plans, Society's Rules and Secretary's letters - The materials and workmanship were found good - In my opinion the machinery of this vessel merits the approval of the Committee and be recorded in the Society's Register Book + LMC 6-58- OIL ENGINE - O.G.

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

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 *Lloyd's Gao - PK - 25-10-57*
 SCREW AND TUBE SHAFTS *Lloyd's Gao - PK - 25-10-57*
 PROPELLERS *Lloyd's Ham 715/57 - PK - 26-1-57 / Lloyd's Ham 3475/57 - H.Ka - 8-12-57*
 OTHER IMPORTANT ITEMS *Shrouds: Lloyd's Test Gao - 3Kg - S/B - 26-1-57*

Is the installation a duplicate of a previous case? *yes* If so, state name of vessel *PETER*
 Date of approval of plans for crankshaft — Straight shafting *12-3-57* Gearing — Clutch —
 Separate oil fuel tanks *13-2-57* Pumping arrangements *11-6-56/18-1-57* Oil fuel arrangements *18-1-57*
 Cargo oil pumping arrangements — Air receivers — Donkey boilers —
 Dates of examination of principal parts:—
 Fitting of stern tube *(H.Ka in Donkey)* Fitting of propeller *25-10-57* Completion of sea connections *8-11-57* Alignment of crankshaft in main bearings —
 Engine chocks & bolts *22-1-58* Alignment of gearing — Alignment of straight shafting *22-1-58* Testing of pumping arrangements *17-2-58*
 Oil fuel lines *17-2-58* Donkey boiler supports — Steering machinery *11-6-58* Windlass *11-6-58*
 Date of Committee *THURSDAY 12 AUG 1958* Special Survey Fee *£ 300 -*
 Decision *See Rpt. 1.* Expenses *£ 42 -*

