

pt. 4a.

Report on Steam Turbine Machinery. No. 500

Date of writing Report 8.7.1955 When handed in at Local Office 26.7.1955 Port of NANTES Received at London Office 30 JUL 1955
No. in Survey held at SAINT NAZAIRE Date, First Survey 24.10.52 Last Survey 22.6.1955
Reg. Book (Number of Visits 61)
pp 91109 on the Single Twin Triple Quadruple Screw Vessel "ISIDORA" Tons (Gross 20.700 Net 10.420)
Built at SAINT NAZAIRE By whom built CH. BAT. DE SAINT NAZAIRE (PENHOET) Yard No. P.15 When built 1955
Engines made at SAINT NAZAIRE By whom made CH. BAT. DE SAINT NAZAIRE (PENHOET) Engine No. P.15 When made 1955
Boilers made at SAINT NAZAIRE By whom made CH. BAT. DE SAINT NAZAIRE (PENHOET) Boiler No. 1832 When made 1955
Shaft Horse Power Maximum 15.000 Owners SOCIETE MARITIME SHELL Port belonging to LE HAVRE
M.N. as per Rule Service 3.000 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES
Trade for which Vessel is intended CARRYING PETROLEUM IN BULK.

TEAM TURBINE ENGINES, &c.—Description of Engines. DOUBLE REDUCTION GEARED TURBINES (PARSONS—C.E.M. TYPE)

No. of Turbines Ahead 2 Direct coupled, single reduction geared to ONE propelling shafts. No. of primary pinions to each set of reduction gearing 2
Astern 2 double reduction geared
Direct coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;
or supplying power for driving Propelling Motors, Type
rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE	H. P.	H. P. ASTERN	L. P.	L. P. ASTERN.
LOADING.				
Impulse				
ading	No. of rows 2	2		
	No. of stages 22		21	7
action				
ading	No. of rows in each stage 1		1	1

Shaft Horse Power at each turbine H.P. 7600 I.P. 5040 1st reduction wheel 770
L.P. 9000 main shaft 108

Motor Shaft diameter at journals H.P. 160 Pitch Circle 1st pinion 408.148 1st reduction wheel 1703.340 Width of Face 1st reduction wheel 760
I.P. 250 Diameter 2nd pinion 547.141 main wheel 3907.590 main wheel 1230
L.P. 250

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 540 1st reduction wheel F.W. 680 AFT 630
2nd pinion 860 main wheel F.W. 1100 AFT 990

Flexible Pinion 1st 170 Pinion Shafts, diameter at bearings External 1st HP 160 2nd 400 1st LP 250 2nd 535.341
2nd 170 Internal 1st LP 200 2nd INT. 225 diameter at bottom of pinion teeth

Wheel Shafts, diameter at bearings 1st 280 diameter at wheel shroud, 1st 420/370 Generator Shaft, diameter at bearings
main 600 main 756/676 Propelling Motor Shaft, diameter at bearings
as per rule 526 as per rule 552
as fitted 543 as fitted 554

Intermediate Shafts, diameter as per rule 570.5
as fitted 590
Screw Shaft, diameter as per rule 570.5
as fitted 590

Tube Shaft, diameter as per rule 570.5
as fitted 590
Is the tube screw shaft fitted with a continuous liner YES

Monze Liners, thickness in way of bushes as per rule 26 Thickness between bushes as per rule 26 Is the after end of the liner made watertight in the
as fitted 28 as fitted 26
peller boss. YES If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner YES

The liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive YES

Two liners are fitted, is the shaft lapped or protected between the liners YES Is an approved Oil Gland or other appliance fitted at the after end of the tube
No If so, state type Length of Bearing in Stern Bush next to and supporting propeller 3155

Propeller, diameter 6400 Pitch 4944 No. of Blades 5 State whether Moveable NO Total Developed Surface 201750 square feet

Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine YES Can the H.P. or I.P. Turbines exhaust direct to the

Condenser YES No. of Turbines fitted with astern wheels 2 Feed Pumps No. and size 3 x 95 m³/hr
How driven STEAM TURBINE

Pumps connected to the Main Bilge Line No. and size 2 x 118 m³/hr
How driven ELECTRIC MOTOR

Fast Pumps, No. and size 2 x 118 m³/hr Lubricating Oil Pumps, including Spare Pump, No. and size 2 x 110 m³/hr

Two independent means arranged for circulating water through the Oil Cooler YES Branch Bilge Suctions, No. and size:—In Engine

Boiler Rooms 3 x 50 - 5 x 90 - 2 x 125 In Pump Room F.W. 1 x 69 AFT 2 x 100

Olds, &c. COFFERDAMS IN ER (AFT, UNDER GEAR CASE, ECHO SOUNDER) 3 x 50

Water Circulating Pump Direct Bilge Suctions, No. and size 2 x 300 Direct Bilge Suctions to the Engine and/or Boiler Room

s, No. and size 2 x 125 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges YES

Are all Sea Connections fitted direct on the skin of the ship WATER BOXES 2 DISTANCE Are they fitted with Valves or Cocks BOTH

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YES Are the Overboard Discharges above or below the deep water

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel YES Are the Blow Off Cocks fitted with a spigot and brass

covering plate YES What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks FORE PEAK SUCTION Have they been tested as per rule YES

Are all Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times YES

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery

spaces, or from one compartment to another YES Is the Shaft Tunnel watertight YES Is it fitted with a watertight door YES

BOILERS, &c.—Total Heating Surface of Boilers 22,800 sq. ft.

Forced Draught fitted YES No. and Description of Boilers TWO WATERTUBE - FASTER WHEELER Working Pressure 50 Kgs

Is a Report on Main Boilers now forwarded? YES

Is { a Donkey { Boiler fitted? NO If so, is a report now forwarded? ✓
an Auxiliary }
Is the donkey boiler intended to be used for domestic purposes only ✓
Plans. Are approved plans forwarded herewith for Shafting 13.1.53 No Main Boilers No 13.5.53 Auxiliary Boilers Donkey Boilers ✓
(If not, state date of approval) 27.5.53
Superheaters NO 8.9.53 General Pumping Arrangements NO 17.11.53 19.1.54 Oil Fuel Burning Arrangements NO 12.3.54
Geared turbines } 5.11.53 Have torsional vibration characteristics of system been approved YES Date of approval 26.1.54
situated aft. }

SPARE GEAR.

Has the spare gear required by the Rules been supplied. YES
State the principal additional spare gear supplied PROPELLER SHAFT, IMPELLERS & SHAFTS FOR MAIN GEAR, AUX GEAR, EXTRACTION & AUX CONDR PUMPS

The foregoing is a correct description.

Dates of Survey while building
During progress of work in shops - 1952 24.10, 30.10, 18.11, 1953 2.2, 27.3, 11.4, 30.4, 23.5, 27.6, 10.6, 24.6, 30.9, 29.12, 1954 11.1, 8.3, 18.3, 22.3, 13.4, 10.5
During erection on board vessel - 4.11.54, 1955 1.2, 10.2, 16.3, 21.3, 21.5, 1.6, 17.6, 20.6, 21.6, 22.6.55 21.3, 24.3, 1.4, 22.4, 21.5
Total No. of visits 61

Dates of Examination of principal parts—Casings 16.3.55 & 21.3.55 Rotors 16.3.55 & 21.3.55 Blading 16.3.55 & 21.3.55 Gearing 16.3.55 & 21.3.55

Wheel shaft 21.3.55 & Thrust shaft ✓ Intermediate shafts 26.10.54 Tube shaft ✓ Screw shaft 26.10.54

Propeller 26.10.54 Stern tube 4.10.54 Engine and boiler seatings 16.3.55 Engine holding down bolts 21.5.55

Completion of fitting sea connections 18.6.55 Completion of pumping arrangements 17.6.55 Boilers fixed 10.2.55 Engines tried under steam 20.2.55

Main boiler safety valves adjusted 20.2.55 Thickness of adjusting washers P.W. 23.8 AFT 22.9 SPT 25 S.F.W. 24 AFT 23.5 SPT 23.5

Rotor shaft, Material and tensile strength H.P. ELEC. FURN. STEEL 60/61.3 LP ELEC. FURN. STEEL 56.7/57.1 Identification Mark HPR9/302 LPV.4

Flexible Pinion Shaft, Material and tensile strength 1st REDUCTION WHEEL SHAFTS Identification Mark ✓

Pinion shaft, Material and tensile strength H.P. CR 81/3/86.7 L.P. CR 81/3/86.7 2nd RED. PINIONS - NI CR 82/83 Identification Mark HP 330/347 LP 330/347 2nd RED

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment 4.1.54

1st Reduction Wheel Shaft, Material and tensile strength NI CR 81/82.5 Identification Mark (2) 310

Wheel shaft, Material OH STEEL Identification Mark PAR 550 Thrust shaft, Material ✓ AS WHEEL Identification Mark ✓

Intermediate shafts, Material EL FURN. Identification Marks ✓ 631 & ✓ 653 Tube shaft, Material ✓ Identification Marks ✓

Screw shaft, Material ELEC. FURN. STEEL Identification Marks ✓ 673 & ✓ 674 Steam Pipes, Material STEEL Test pressure 84.90.2.112

Date of test 17.11.54, 9.2.55, 5.3.55, 10.3.55, 24.3.55, 24.4.55, 21.5.55 Is an installation fitted for burning oil fuel YES

Is the flash point of the oil to be used over 150°F YES Have the requirements of the Rules for the use of oil as fuel been complied with YES

Full description of Fire Extinguishing Apparatus fitted in machinery spaces 4-135 FROTH EXTINGUISHERS TOP PLATFORMER WITH CONNECTION IN MACH. & CO2

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓ If so, have the requirements of the Rules been complied with ✓

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with ✓

Is this machinery a duplicate of a previous case YES If so, state name of vessel "ISANDA"

General Remarks. (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been constructed under Special Survey in accordance with approved plans, rule requirements & Secretary's letter.

The quality of materials & workmanship is good.

The machinery has been satisfactorily installed on board, examined under full working conditions during sea trials.

During the trials the main machinery was specially examined at engine speed of 30 to 50 Rpm (see letter 21.5.54) & no evidence of gear hammer or rough running was observed.

During & after trials the welded gear case was specially examined & found satisfactory.

The machinery of this vessel is in my opinion eligible to be classed with the notation of + LMC 6.55.

Construction 300.800 lbs.

The amount of Entry Fee ... £ 296.000 When applied for.

Installation Special ... £ 17.500 When received.

add. for welded gear case. Donkey Boiler Fee ... £ 30.400

Travelling Expenses (if any) ... £ 30.400

Committee's Minute FRIDAY - 9 SEP 1955

Assigned + LMC 6.55 Fitted for O.F. 6.55

2 WTB 710 lb. CR

Engine Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation