

Report on Steam Turbine Machinery. No. 515

4a.

Received at London Office
 Date of writing Report 11.11.1955 When handed in at Local Office 19.11.1955 Port of NANTES
 in Survey held at SAINT NAZAIRE Date, First Survey 24.10.52 Last Survey 26.10.1955
 Book (Number of Visits 62)
 1. Book
 2. Support on the Single Twin Triple Quadruple Screw Vessel S.S. 'ISOCARDIA' Tons (Gross 20708 Net 10417)
 3. Built at SAINT NAZAIRE By whom built CH. & AT. DE SAINT NAZAIRE (PENHOET) Yard No. 915 When built 1955
 4. Engines made at SAINT NAZAIRE By whom made CH. & AT. DE SAINT NAZAIRE (PENHOET) Engine No. 915 When made 1955
 5. Boilers made at SAINT NAZAIRE By whom made CH. & AT. DE SAINT NAZAIRE (PENHOET) Boiler No. 1856 & 1857 When made 1955
 6. Shaft Horse Power { Maximum 15,000 Service 3,000 Owners SOCIETE MARITIME SHELL Port belonging to LE HAVRE
 7. As per Rule. Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES
 8. Use for which Vessel is intended CARRYING PETROLEUM IN BULK

STEAM TURBINE ENGINES, &c.—Description of Engines DOUBLE REDUCTION GEARED TURBINES (PARSONS - CEN TYPE)

of Turbines Ahead 2 Direct coupled, single reduction geared to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 2
 Astern 2 double reduction geared
 1. Coupled to { Alternating Current Generator phase periods per second Direct Current Generator rated Kilowatts Volts at revolutions per minute;
 2. supplying power for driving Propelling Motors, Type
 3. ed 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.				
else { No. of rows	2	2	✓	✓
ing { No. of stages	22	✓	21	7
tion { No. of rows in each		✓		
ing { stage	1		1	1

ft Horse Power at each turbine H.P. 7600 I.P. ✓ Revolutions per minute, at full power, of each Turbine Shaft H.P. 5040 1st reduction wheel 770
 L.P. 9000 L.P. 3220 main shaft 108

or Shaft diameter at journals H.P. 160 Pitch Circle 1st pinion HP 261.215 1st reduction wheel 1703.340 Width of 1st reduction wheel 760
 I.P. ✓ Diameter 2nd pinion LP 408.148 main wheel 3907.590 Face 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 AET 630
 2nd pinion 860 main wheel F.W. 1100 AET 990

Pinion Shafts, diameter at bearings External 1st { HP 160 } 2nd { 400 } diameter at bottom of pinion teeth 1st HP 251.615
 Internal 1st { LP 200 } 2nd { 225 } 2nd LP 398.728
 1st 170

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 ✓

Intermediate Shafts, diameter as per rule 526 Thrust Shaft, diameter at collars as per rule 552
 as fitted 543 as fitted 590 as fitted 554

Shaft, diameter as per rule 26 Screw Shaft, diameter as per rule 570.5 Is the tube shaft fitted with a continuous liner YES
 as fitted 28 as fitted 590 as fitted screw

Size Liners, thickness in way of bushes as per rule 26 Thickness between bushes as per rule Is the after end of the liner made watertight in the
 as fitted 28 as fitted Is the liner in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

ve 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 ✓

o liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube

t NO If so, state type Length of Bearing in Stern Bush next to and supporting propeller 3155 H.M.

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

ngle 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

lenser YES No. of Turbines fitted with astern wheels 2 Feed Pumps { No. and size 3x95 m³/h² How driven STEAM TURBINE

ps connected to the Main Bilge Line { No. and size 2x118 m³/h² How driven ELECTRIC MOTOR

ast Pumps, No. and size 2x118 m³/h² Lubricating Oil Pumps, including Spare Pump, No. and size 2x110 m³/h²

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

Boiler Rooms 3x50 5x90 2x125 In Pump Room F.W. 1x69 AET 2x100

olds, &c. COFF. IN ER - (AFT, UNDER GEAR CASE, ECHO SOUNDER) 3x50

n Water Circulating Pump Direct Bilge Suctions, No. and size 2x300 Direct Bilge Suctions to the Engine and/or Boiler Room

es, No. and size 2x125 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES

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

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

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

BOTH 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 STEEL

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

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

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

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

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

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

reed Draught fitted YES No. and Description of Boilers TWO WATERTUBE (FOSTER WHEELER) Working Pressure 50 kg

Report on Main Boilers now forwarded? YES SUPT. TEMP. 850°F.

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 No 13.1.53 Main Boilers No 15.4.53 Auxiliary Boilers ☒ Donkey Boilers ☒
 (If not, state date of approval)
 Superheaters No 16.9.53, 5.11.53 General Pumping Arrangements No 17.11.53, 19.1.54 Oil Fuel Burning Arrangements No 12.3.54
 Geared turbines situated aft. Have torsional vibration characteristics of system been approved. YES Date of approval 26.1.54

SPARE GEAR.

Has the spare gear required by the Rules been supplied. YES.
 State the principal additional spare gear supplied. PROP. SHAFT, IMPELLERS & SHAFTS FOR MAIN CIRC. AUX. CIRC. EXTRACTION, AUX. COND. PUMP & BALLAST PUMPS.



LE DIRECTEUR TECHNIQUE

The foregoing is a correct description.

Manufactured

Dates of Survey while building: During progress of work in shops - 24.10.52, 30.10, 28.11, 27.3.53, 22.4, 30.4, 23.5, 27.5, 30.6, 24.9, 30.9, 12.10, 8.3.54, 5.4, 16.4, 26.4, 10.5, 18.6, 22.6, 25.6, 10.8, 30.8, 4.11, 14.12, 29.12, 4.1.55, 7.1, 17.1, 20.1, 1.2, 18.2, 22.2, 14.3, 1.4, 18.4, 20.4, 22.4, 26.4, 9.5, 24.5, 1.6, 6.6
 During erection on board vessel - 9.6, 16.6, 8.8, 27.8, 2.9, 23.9, 6.10
 Total No. of visits 62 22.6.54, 4.11.54

Dates of Examination of principal parts - Casings 16.6.55 Rotors 16.6.55 Blading 16.6.55 Gearing 6.6.55
 Wheel shaft 8 Thrust shaft 6.6.55 Intermediate shafts 4.7.55 Tube shaft ☒ Screw shaft 22.2.55

Propeller 22.2.55 & 14.10.55 Stern tube 1.2.55 Engine and boiler seatings 4.7.55 & 6.6.55 Engine holding down bolts 8.7.55
 Completion of fitting sea connections 14.10.55 Completion of pumping arrangements 17.10.55 Boilers fixed 4.7.55 Engines tried under steam 22.2.55

Main boiler safety valves adjusted 5.30.9.55 P 11.10.55 Thickness of adjusting washers S.F.W. 24.3 AFT 22.7 SFT 24.7 P.F.W. 20.5 AFT 22.7 SFT 24.3
 Rotor shaft, Material and tensile strength HP. ELECT. FURNACE. 60/60.7Kg. L.P. 60/61.7 Identification Mark HP. V.768 LP. V.768

Flexible Pinion Shaft, Material and tensile strength AS 1ST. RED WHEEL SHAFTS Identification Mark HP 328
 Pinion shaft, Material and tensile strength NI. CR. HP 83/85.7 LP. 80/83.5 2ND RED LP 77.3/80.3 Identification Mark LP 329 2ND RED

HP 83/85.7 LP 83/86.5; Chemical analysis: HP 230C 60MA 3803 0065 016P 2.83NI 73CR 28MO
 2ND RED HP 18 51 25 005 019 2.82 56 31
 LP 18 61 30 005 019 2.82 56 31

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment.
 1st Reduction Wheel Shaft, Material and tensile strength NI. CR. 80.7/83.3 Identification Mark 299

Wheel shaft, Material O.H. Identification Mark V.495 Thrust shaft, Material AS WHEEL SHAFT Identification Mark
 Intermediate shafts, Material O.H. Identification Marks R228 R30 Tube shaft, Material Identification Marks

Screw shaft, Material O.H. Identification Marks R368 R37(SPARE) Steam Pipes, Material CHRONOSCOB THERMO Test pressure 1208.94
 Date of test 18.4.55, 22.4, 9.6, 8.8, 16.9.55 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 STEAM SMOTHERING PLUS 1-136 3-136 LITRE FOAM - TOP PLAT. IN ER. WITH HOSE.
 13-9 " " (PORTABLE) 8-8 LITRE CO2 (PORTABLE)

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. YES 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. YES

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

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 sea trials the main machinery was specially examined at engine speeds of 30 to 50 Rpm (per Sec. Letter 28.1.54) & no evidence of gear hammer or rough run was observed.

During & after sea trials the welded gear case was specially examined & found sound & free from defects.

The machinery of this vessel is in my opinion eligible to be classed with the notation + L.M.C. 10.55

Construction 300.800 £
 The amount of Entry Fee 246.000 £
 Installation 17.500 £
 Special add. for welded gear case
 Donkey Boiler Fee
 Travelling Expenses (if any) 22.600 £

When applied for 19
 When received 19

Committee's Minute FRIDAY 9-DEC 1955

Assigned + LMC 10.55

2 WTB 675 lb.
 OF 10.55. CL.