

23 MAY 1960

Report on Steam Turbine Machinery. No. 781

ot. 4a.

Received at London Office

te of writing Report 2-5 1960. When handed in at Local Office 13-5 1960 Port of NANTES
o. in Survey held at SAINT-NAZAIRE Date, First Survey Last Survey 19
g. Book (Number of Visits)

on the Single Screw Vessel Tons {Gross
Twin Net
Triple
Quadruple

uilt at DUNKIRK By whom built ATELIERS & CH. DE FRANCE Yard No. 228 When built
ngines made at SAINT-NAZAIRE By whom made CH. DE L'ATLANTIQUE (PENHOET) Engine No. T18 When made 1959-9
oilers made at By whom made Boiler No. When made
raft Horse Power {Maximum 24,000 Owners HEMISPHERE TRANSPORTATION CORP. Port belonging to
Service 4,800 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
N. as per Rule
rade for which Vessel is intended PETROLEUM IN BULK

TEAM TURBINE ENGINES, &c.—Description of Engines DOUBLE REDUCT. GEARED STEAM TURBINE (C.E.M. PARSON TYPE)

No. of Turbines 2 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; CASE 409 F
for 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. AST.	L. P.	ASTERN.
BLADING.				
Impulse {No. of rows <u>2</u>				
Blading {No. of stages <u>19</u>				
Reaction {No. of rows in each stage <u>1</u>				

Shaft Horse Power at each turbine {H.P. 11,300 Revolutions per minute, at full power, of each Turbine Shaft {H.P. 45.74 1st reduction wheel HP 726
LP 13,050 LP 3,000 main shaft LP 628

Rotor Shaft diameter at journals {H.P. 1.60 Pitch Circle Diameter {1st pinion HP 310.193 1st reduction wheel 1953.71 Width of 1st reduction wheel 1002 926
LP 3.00 2nd pinion HP 635.56 main wheel 4521.71 Face main wheel 1424 1324
LP 734.86

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings {1st pinion 658 1st reduction wheel 710
2nd pinion 1037 main wheel 1174 Fwd 1079

Flexible Pinion {1st HP 205 Pinion Shafts, diameter at bearings {External 1st HP 200 2nd HP 450 diameter at bottom of pinion teeth 1st HP 300.773
Shafts, diameter {2nd LP 235 Internal 1st LP 250 2nd LP 450 LP 398.728
2nd HP 623.56
LP 722.867

Wheel Shafts, diameter at bearings {1st 280 diameter at wheel shroud, {main 796.721 Propelling Motor Shaft, diameter at bearings 625.8
as per rule Thrust Shaft, diameter at collars 700
as fitted

Intermediate Shafts, diameter {as per rule as fitted

Tube Shaft, diameter {as per rule as fitted

Screw Shaft, diameter {as per rule as fitted

Is the {tube } shaft fitted with a continuous liner {
screw }

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

If 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.

If two 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

shaft. If so, state type. Length of Bearing in Stern Bush next to and supporting propeller.

Propeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.

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

Condenser. No. of Turbines fitted with astern wheels Feed Pumps {No. and size
How driven

Pumps connected to the Main Bilge Line {No. and size
How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions, No. and size:—In Engine
and Boiler Rooms. In Pump Room

In Holds, &c. Direct Bilge Suctions to the Engine and/or Boiler Room

Main Water Circulating Pump Direct Bilge Suctions, No. and size

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

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.

Are all Sea Connections fitted direct on the skin of the ship. Are they fitted with Valves or Cocks.

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

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

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

What pipes pass through the deep tanks. Have they been tested as per rule.

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

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. Is the Shaft Tunnel watertight. Is it fitted with a watertight door. worked from

BOILERS, &c.—Total Heating Surface of Boilers Working Pressure

Is Forced Draught fitted No. and Description of Boilers

Is a Report on Main Boilers now forwarded?

Is { a Donkey } { an Auxiliary } Boiler fitted? If so, is a report now forwarded?
Is the donkey boiler intended to be used for domestic purposes only
Plans. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers
(If not, state date of approval)
Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements
Geared turbines situated aft Have torsional vibration characteristics of system been approved Date of approval 19.3.59

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description.



Dates of Survey while building During progress of work in shops - 1957: 16-19/9; 26-28/11; 1958: 10/1, 3-6, 7-12, 18-21-24-28/3; 30/4, 9-13-19/5; 2-20-30/6; 7/7, 22-26/8; 1-9-15-22-24/9; 2/10-20/10
During erection on board vessel - 23/12; 1960: 7/1-21/1-25/4-28/4
Total No. of visits 70

Dates of Examination of principal parts - Casings 1958: 3-5/3; 9-24/9; 7-22/10; 1958: 20/10; 7/4; 1959: 3/3; 28/4; 20/5; 1957: 30/4; 17/6; 13
Rotors 1959: 14-19/4-15/6; Blading 15/6; Gearing 1959: 5/3; 18/9-20/9

Wheel shaft 1959: 7-12/1; 3/3 Thrust shaft Intermediate shafts Tube shaft Screw shaft

Propeller Stern tube Engine and boiler seatings Engine holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Boilers fixed Engines tried under steam 8-9-28/9 25/4

Main boiler safety valves adjusted Thickness of adjusting washers

Rotor shaft, Material and tensile strength MARTINS STEEL HP 61.6/60 - LP 60.8/60 Identification Mark HP LYOM 15 - LP LYOM

Flexible Pinion Shaft, Material and tensile strength FORGED STEEL HP 81.3/92 LP 79.6/82.5 Identification Mark HP 1524 RE LP 2202

Pinion shaft, Material and tensile strength 1st NICKMO HP 89.1/91.5 2nd NICKMO HP 89.9/87 Identification Mark 1st LYO J 205V 2nd LYO J 216

2nd HP LYO J 208 LP LYO J 219; Chemical analysis C Mn S P S CR Ni MO .28 .40 .027 .021 .009 .69 2.80 .30

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 Identification Mark

Wheel shaft, Material MARTINS STEEL 578/55 Identification Mark LYO S 147 Thrust shaft, Material AS WHEEL SHEET Identification Mark

Intermediate shafts, Material Identification Marks Tube shaft, Material Identification Marks

Screw shaft, Material Identification Marks Steam Pipes, Material Test pressure

Date of test Is an installation fitted for burning oil fuel

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

Full description of Fire Extinguishing Apparatus fitted in machinery spaces

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 NO If so, state name of vessel

General Remarks. (State quality of workmanship, opinions as to class, &c.) This main engine has been built under Special

Survey in accordance with Approved plans, Secretary's letters & Rule requirements

The material & workmanship are good

This engine has been tried in shop under full working condition and found

satisfactory. Governor tested and found in order

This engine has been dispatched to Dunkirk

This engine is eligible in my opinion to be classed with the notation + L.M.C.

with date when securely fitted on board under inspection and to satisfaction

of the Society's Surveyors

NOTE: See Secretary's letter dated 3-4-57

Reduction gearing: HP primary pinion tooth contact distribution to be verified

on completion of sea trials

The amount of Entry Fee ... NF 6560: When applied for

Special ... £ : : 19

Donkey Boiler Fee ... £ : : When received

Travelling Expenses (if any) NF 973 : 19

Committee's Minute FRIDAY - 3 MAR 1961

Assigned See Rpt. 1

A. MARÉCHAUX
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register
Foundation