

Report on Steam Turbine Machinery.

/GENERATOR

1000

No. FE-1405

Received at London Office

29 JUN 1953

28 MAY 1953

Writing Report

19

When handed in at Local Office

Port of

Survey held at

Kobe, Japan.

Date, First Survey

(7-5-52

Last Survey

23-12-1952

(Number of Visits

21

23-5-1953

on the S.S. "Leonidas"

Nippon Steel Tube Co., Ltd.

Shimizu, Japan

By whom built Shimizu Shipyard

Yard No. 151

When built May, 1953

made at Kobe, Japan

By whom made Reorganized Ltd., Kobe

Engine No. 1133

When made Dec., 1952

shaft made at

By whom made Shipyard & Engine Works

Boiler No.

When made May, 1953

Horse Power at Full Power

600 x 2

Owners Miramonte Compania Naviera S.A.

Port belonging to Monrovia Liberia

Horse Power as per Rule

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

for which Vessel is intended

TURBINE ENGINES, &c.—Description of Engines. All Impulse, Single reduction geared turbines each generator

Turbines 2 sets Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing 1
coupled to Alternating Current Generator 3 phase 60 periods per second rated 500 K.V.A. 230 Volts at 1200 revolutions per minute;
supplying power for driving Propelling Motors, Type Direct Current Generator

	H.P.	I.P.	L.P.	ASTERN.
No. of rows	Curtis 1 row			
No. of stages	Rateau 4 rows			
No. of rows in each stage				

Horse Power at each turbine H.P. 600 ✓ I.P. Revolutions per minute, at full power, of each Turbine Shaft I.P. 7548 ✓ L.P. 1200 ✓

Shaft diameter at journals H.P. 60 ✓ Pitch Circle Diameter 1st pinion 1st reduction wheel 896.65 2nd pinion pinion shaft 142.55 Width of Face 1st reduction wheel 200 2nd pinion pinion shaft 200

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 1st reduction wheel 200 2nd pinion pinion shaft 200

Pinion diameter 1st Pinion Shafts, diameter at bearings External 1st 70 ✓ 2nd diameter at bottom of pinion teeth 1st 132.93 2nd 150/130 ✓

Shafts, diameter at bearings 1st 100 ✓ 2nd diameter at wheel shroud wheel 830 Generator Shaft, diameter at bearings 1st 132.93 2nd 150/130 ✓

Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted

Shaft, diameter as per rule as fitted Screw Shaft, diameter as per rule as fitted Is the tube screw shaft fitted with a continuous liner

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

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

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

No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven
connected to the Main Bilge Line No. and size How driven

Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size
independent means arranged for circulating water through the Oil Cooler Suctions, connected both to Main Bilge Pumps and Auxiliary

mpps, No. and size:—In Engine and Boiler Room In Pump Room
&c.

ater Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
o. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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
ea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

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
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

plate What pipes pass through the bunkers How are they protected
es pass through the deep tanks Have they been tested as per rule

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

from one compartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from
, &c.—(Letter for record) Total Heating Surface of Boilers
Draft fitted No. and Description of Boilers Working Pressure
t 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.

SPARE GEAR.

Has the spare gear required by the Rules been supplied. Yes

State the principal additional spare gear supplied.

1 - Complete Steam strainer	1 - Set of Gland packing.
1 - Complete set of turbine & reduction gear bearings	1 - Set of Gear wheel & bearing for lubricating oil pump.
1 - Set of thrust pad.	1 - Set of gear coupling bolts.
1 - set of oil strainer.	1 - Set of flexible coupling bolts rubbers.
1 - Spiral gear for speed governor.	5% of total No. of bolts & nuts for flange of turbine & gear casing.
1 - Spiral gear for tachometer.	10 - Oil cooler tubes.
1 - Set of Spring of each size.	

The foregoing is a correct description.

S. Murakami
Director & General Manager

Dates of Survey while building	During progress of work in shops - - -	1952: May-7, 27, Aug.-2, 7, 14, 20, 28, Sept.-6, 10, Oct.-11, 27 Nov.-8, 13, 18, 26, 8, 22, 23
	During erection on board vessel - - -	(1952: May-7, 27, Aug. 2, 7, 14, 19, 20 Sept.-9, 13, 18, 25 Oct.-21, 30 Nov.-8, 13, 26, 18, 6, 8, 22, 23)
	Total No. of visits.	(21) 33

Dates of Examination of principal parts—Casings. (20-11-52) Rotors (8-11-52) Blading (8-12-52) Gearing (8-11-52)

Wheel shaft (8-11-52) 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

Main boiler safety valves adjusted Thickness of adjusting washers 51.7 T/in² (L 52.3 T/in²) SS-F603(SS)

Rotor shaft, Material and tensile strength Special forging steel T 53.9 " (T 52.5 " Identification Mark YK 8-11-52)

Flexible Pinion Shaft, Material and tensile strength Identification Mark MK-F439-8

Pinion shaft, Material and tensile strength Ni Steel 47 T/sq.in. (51.5 T/sq.in.) Identification Mark MK 8-11-52

; Chemical analysis 0.34 Si 0.22 Mn 0.55 P 0.018 S 0.010 Ni 3.30

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

Reduction Wheel Shaft, Material and tensile strength Forging steel 36.4 T/sq.in. (35.0 T/sq.in.) Identification Mark MK F480-6

Wheel shaft, Material Forging steel Identification Mark YK 8-11-52 Thrust shaft, Material Identification Mark

Intermediate shafts, Material Identification Marks YK 8-11-52 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.

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. If so, state name of vessel.

General Remarks. (State quality of workmanship, opinions as to class, &c.)

These Turbine have been constructed under the supervision of the Society's Surveyors in

accordance with the Rules, Approved Plans, and the Secretary's letters.

The materials were found sound and free from defects and the workmanship is good.

The Turbines were examined under steam in full load working conditions with satisfactory

results.

The machinery has been satisfactorily installed in the vessel in accordance

with the Rules. Tested under working condition and found satisfactory.

It is submitted that the machinery of this vessel is eligible to be

with this Society with the notation of + LMC 5. 5-3