

Report on Steam Turbine Machinery.

No. 11157

4a.

Received at London Office

Writing Report 2nd Dec. 1959 When handed in at Local Office 2nd Dec. 59 Port of PHILADELPHIA, PA.
Survey held at Trenton, New Jersey Date, First Survey 14 August, Last Survey 12th November 1959
(Number of Visits 16)

on the Single Screw Vessel's Main Double Reduction Geared Turbine Tons Gross
Triplex (Net)
Quadruple
at Uddevalla, Sweden By whom built Uddevalla, YD Sorviksvarvet Aktiebolag Yard No. 202 When built
made at Trenton, New Jersey By whom made De Laval Steam Turb. Co. Engine No. 652030 When made 1959
made at By whom made Boiler No. When made
Horse Power } Maximum 20,000 Owners California Transport Port belonging to
Service } 4,000
Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
for which Vessel is intended

M TURBINE ENGINES, &c.—Description of Engines Cross Compound Double Reduction Geared Turbines

Turbines Ahead 2 Direct coupled
Astern 1 single reduction geared (to one propelling shafts) No. of primary pinions to each set of reduction gearing 2
double reduction geared
coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute
Direct Current Generator
playing power for driving Propelling Motors Type
Kilowatts Volts at revolutions per minute Direct coupled, single or double reduction geared to one propelling shafts

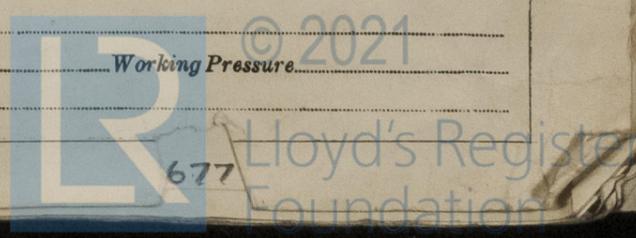
LINE	H. P.	I. P.	L. P.	ASTERN.
No. of rows	11		8	3
No. of stages				
No. of rows in each stage				

Horse Power at each turbine H.P. 11000 ✓ I.P. 5590 ✓ L.P. 11000 ✓
Revolutions per minute, at full power, of each Turbine Shaft H.P. 11.195" ✓ I.P. 73.653" ✓ L.P. 3314" ✓
1st reduction wheel 788
main shaft 105
Shaft diameter at journals H.P. 5.988" ✓ I.P. 17.283" ✓ L.P. 79.738" ✓
Pitch Circle Diameter 1st pinion 23.63" ✓ 1st reduction wheel 23-1/2" ✓
main wheel 176.621" ✓ Width of Face main wheel 44-1/2" ✓
between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 17-1/4" ✓ 1st reduction wheel 17-1/4" ✓
2nd pinion 30-3/4" ✓ main wheel 35-1/4" & 36-1/4" ✓
Pinion diameter H.P. 7.45" ✓ I.P. 7.988" ✓ L.P. 17.982" ✓
Pinion Shafts, diameter at bearings External H.P. 7.988" ✓ I.P. 17.982" ✓ L.P. 16.753" ✓
Internal H.P. 7.6-1/8" ✓ I.P. 70-1/8" ✓ L.P. 23.832" ✓
Pinion Shafts, diameter at bearings 1st 11.987" ✓ 2nd 23.976" ✓
Generator Shaft, diameter at bearings main 170.75" ✓
Propelling Motor Shaft, diameter at bearings
Shafts, diameter as per rule Thrust Shaft, diameter at collars as per rule 24" ✓
as fitted
Shaft diameter as per rule Screw Shaft, diameter as per rule Is the tube } shaft fitted with a continuous liner {
as fitted screw }
liners, thickness in way of bushes as per rule Thickness between bushes as per rule Is the after end of the liner made watertight in the boss as fitted
If the liner is in more than one length are the junctions made by fusion through the whole thickness of 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
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
If so, state type Length of Bearing in Stern Bush next to and supporting propeller
diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet
crew, 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 Branch Bilge Suctions, No. and size:—In Engine Rooms In Pump Room

Circulating Pump Direct Bilge Suctions, No. and size Direct Bilge Suctions to the Engine and/or Boiler Room and size
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes
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
Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
d 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
te What pipes pass through the bunkers How are they protected
pass through the deep tanks Have they been tested as per rule
Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times
ement 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
n one compartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

&c.—Total Heating Surface of Boilers
ught fitted No. and Description of Boilers Working Pressure
Main Boilers now forwarded? PLEASE RETURN THIS REPORT WITH YOUR FIRST ENTRY.
burg 011671-011677-0094



If so, is a report now forwarded?

Is a Donkey Boiler fitted?
Is the donkey boiler intended to be used for domestic purposes only?

Plans. Are approved plans forwarded herewith for Shafting
(If not, state date of approval)

Superheaters

Geared turbines situated aft.

General Pumping Arrangements
Have torsional vibration characteristics of system been approved.

Oil Fuel Burning Arrangements

Date of approval

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.

H. G. Bauer, Executive Vice President

DE LAVAL STEAM TURBINE CO.

Aug. 11, 24, 26, Sept. 8, 16, 25, 28, Oct. 12, 14, 15, 16, 30, Nov. 3, 6, 9, 12, 1959

Dates of Survey while building

Dates of Examination of principal parts

Wheel shaft

Propeller

Main boiler safety valves adjusted

Rotor shaft, Material and tensile strength

Flexible Pinion Shaft, Material and tensile strength

Pinion shaft, Material and tensile strength

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

Wheel shaft, Material

Intermediate shafts, Material

Screw shaft, Material

Date of test

Is the flash point of the oil to be used over 150°F.

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 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

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

under Special Survey in accordance with the approved plans.

conformity with the Society's Rules.

The materials and workmanship are good.

The turbines and gears have been tested in the shop, afterwards opened out and examined

with the exception of the H.P. 1st reduction pinion extension shaft hub and coupling sleeve

will be replaced, found in order.

This double reduction geared turbine is suitable, in our opinion, for acceptance in a

intended to be classed with this Society when a new high pressure 1st reduction pinion

shaft hub and coupling sleeve have been supplied and the gears proven on sea trials as re

the Rules.

The bedplate has been stamped:-

Serial 652030

LLOYDS PHL

8947

DJA

The amount of Entry Fee ... \$1036.00

Special ... £

Donkey Boiler Fee ... £

Travelling Expenses (if any) £ 88.00

When applied for 2 Dec. 19 59

When received

NEW YORK DEC 23 1959

Assigned

Travelling Expenses (if any)

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