

Report on Steam Turbine Machinery.

No. 11113

14 DEC 1959

4a.

of writing Report 4 Nov. 19 59 When handed in at Local Office 4th Nov. 19 59 Port of PHILADELPHIA, PA.  
in Survey held at Trenton, New Jersey Date, First Survey 27th May, Last Survey 27th October, 19 59  
Book (Number of Visits Nine)

on the Single Screw Vessel's Generator Turbines for Hull 202 Tons Gross  
Twin Triple Quadruple Uddewalla By whom built Sorviksvarvet Aktiebolag Yard No. 202 When built  
Turbines & Gears made at Trenton, N.J. By whom made De Laval Steam Turb. Co. Engine No. 52033/4 When made 1959  
ilers made at By whom made Boiler No. When made  
aft Horse Power Maximum Owners California Transport Corporation Port belonging to  
N. as per Rule Service Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes  
ade for which Vessel is intended

TEAM TURBINE ENGINES, &c.—Description of Engines 750 K.W. A.C. Turbo Generators (2 Units per Ship)  
No. of Turbines One Direct coupled, generator single reduction geared to one propelling shafts No. of primary pinions to each set of reduction gearing one  
Direct coupled to Alternating Current Generator 3 phase 60 periods per second rated 750 Kilowatts 450 Volts at 1200 revolutions per minute;  
for supplying power for driving Direct Current Generator Propelling Motors, Type Auxiliary Power & Lighting.  
rated Kilowatts Volts at revolutions per minute Direct coupled, single or double reduction geared to propelling shafts

Table with 5 columns: TURBINE, H. P., I. P., L. P., ASTERN. Rows include impulse blading, reaction blading, and stage details.

Shaft Horse Power at each turbine H.P. I.P. L.P. Revolutions per minute, at full power, of each Turbine Shaft  
Rotor Shaft diameter at journals H.P. 2.495" Pitch Circle Diameter 1st pinion 4.889" 1st reduction wheel 10" main wheel 37.817" 2nd pinion 7-1/16" 2nd reduction wheel 10" main wheel 37.817"  
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 7-1/16" 2nd pinion 7-1/16" main wheel 7-3/8" 1st reduction wheel 10" main wheel 37.817"  
Flexible Pinion 1st Pinion Shafts, diameter at bearings 1st 2.995" 2nd diameter at bottom of pinion teeth 1st 4.651" 2nd  
Wheel Shafts, diameter at bearings 1st diameter at wheel shroud, 1st 37.975" Propelling Motor Shaft, diameter at bearings  
Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted  
Tube 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

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.  
Main Water Circulating Pump Direct Bilge Suctions, No. and size Direct Bilge Suctions to the Engine and/or Boiler Room  
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  
Is Forced Draught fitted No. and Description of Boilers Working Pressure  
Is a Report on Main Boilers now forwarded?



Is <sup>a Donkey</sup> <sub>an Auxiliary</sub> 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 <sub>situated aft.</sub> Have torsional vibration characteristics of system been approved. 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 COMPANY Manufacturer  
May 27, June 18, 22, August 7, 12, 14, October 12, 26 and 27, 1959.

Dates of Survey while building <sub>During progress of work in shops - -</sub> <sub>During erection on board vessel - -</sub>  
Total No. of visits

Dates of Examination of principal parts—Casings 7.8.59 18.6.59  
12.8.59 Rotors 27.10.59 Blading 27.10.59 Gearing 27.10.59

Wheel shaft 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

Rotor shaft, Material and tensile strength Stl. "LG" 109000 psi min. Identification Mark GJL15HX1

Flexible Pinion Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength Stl. "LA" 113000 psi Identification Mark KD416DM

; Chemical analysis C.49 Mang.77 Phos.018 Sul.020 Sil.32

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment 22.4.58

1st Reduction Wheel Shaft, Material and tensile strength Stl. "DA" 88500 psi Identification Mark KD421BLX1

Wheel shaft, Material Identification Mark Thrust shaft, Material 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, etc.) These generator turbines have been built under the

Special Survey of the Society's surveyors in accordance with the approved plans. New York letters

and otherwise in conformity with the Rules.

The materials and workmanship are good.

The turbines have been examined and tested under working conditions in the shop coupled to

their respective 750 K.W. alternators (stamped LL. NYK. 1992,1993), afterwards fully opened out

and found satisfactory.

These turbines will be forwarded to Sorviksvarvet Aktiebolag, Uddevalla, Sweden for installation in Hull 202 and have been stamped for identification:-

Serial 652033

LLOYDS PHL

8950

27.10.59

DJA

Serial 652034

LLOYDS PHL

8951

27.10.59

DJA

The amount of Entry Fee ... \$ 514.00 : When applied for

Special ... £ : 4 Nov. 19 59

Donkey Boiler Fee ... £ : When received

Travelling Expenses (if any) £ 49.50 : 19

Committee's Minute

Assigned

NEW YORK

NOV 25 1959

Transmit to London

Engineer Surveyor to Lloyd's Register of Shipping.



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