

# REPORT ON STEAM TURBINE MACHINERY. No. 6241.

Received at London Office 25 FEB 1949

Report. Nov. 25th 1948 When handed in at Local Office Nov. 25th, 1948. Port of Newport News, Va.  
 Survey held at Newport News, Va. Date, First Survey March 4th Last Survey Oct. 29th 1948.  
 (Number of Visits 25.)  
 the S/S "OAKLEY L. ALEXANDER" (Ex "Laconia Victory")  
 Baltimore By whom built Bethlehem Fairfield Ship. Yard No. When built 1945  
 made at Pittsburgh, Pa. By whom made Westinghouse Electric Mfg. Co. No. When made 1945.  
 made at Barberton, Ohio By whom made Babcock & Wilcox Boiler No. When made 1948.  
 Power at Full Power 6000 Owners Pocahontas Steamship Co. Port belonging to Wilmington, Del.  
 Power as per Rule 1152. 1252 MN Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.  
 which Vessel is intended

**TURBINE ENGINES, &c.**—Description of Engines **Impulse-Reaction Turbines, Double reduction gears.**

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

NO. OF BLADES	H. P.			I. P.			L. P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1	1.1/8"		1				1.3/16"		1	1.19/32"	1	
1	1.3/16"		1				1.7/8"		1	2.5/8"	1	
1	1.5/16"		1				2.3/16"		1	4.11/16"	1	
1	1.13/32"		1				2.9/16"		1			
1	1.1/2"		1				3.1/16"		1			
1	1.5/8"		3				3.1/4"		1			
1	1.13/16"		1				3.15/16"		1			
1	1.15/16"		1				5"		1			
1	1.3/4"		1				6"		1			
1	2.9/16"		1				7.1/2"		1			
1	2.11/16"		1				9.1/2"		1			

Power at each turbine { H.P. 3000  
 I.P. -  
 L.P. 3000 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 5410 1st reduction wheel -  
 I.P. -  
 L.P. 3907. main shaft 100  
 Pitch Circle Diameter { 1st pinion 6.847" 1st reduction wheel 58.635" Width of Face { 1st reduction wheel 8.5"  
 2nd pinion 17.696" main wheel 111.444" { main wheel 20.75"

Pinion diameter { 1st -  
 2nd - } Pinion Shafts, diameter at bearings External 1st { 6" ✓ 2nd { 14" ✓ diameter at bottom of pinion teeth { 1st -  
 Internal 1st { - 2nd { - } 2nd -  
 Shafts, diameter at bearings { 1st 14" ✓ diameter at wheel shroud, { 1st - Generator Shaft, diameter at bearings -  
 main 18" ✓ { main - Propelling Motor Shaft, diameter at bearings -  
 Shaft, diameter as per rule 15.66" Thrust Shaft, diameter as per rule 16.44 Tube Shaft, diameter as per rule -  
 as fitted 16" ✓ as fitted 18" as fitted -  
 Shaft, diameter as per rule 17.18" as fitted 17.875" Is the screw } shaft fitted with a continuous liner { Yes Bronze Liners, thickness in way of bushes as per rule .326"  
 as fitted 17.875" as the screw } as fitted 1" ✓  
 as per rule .645" Is the after end of the liner made watertight in the propeller boss Yes If the liner is in more than one length are the junctions  
 as fitted .984

Is the liner in more than one length are the junctions sealed through the whole thickness of the liner CL. If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a 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 provided at the after end of the tube shaft No. Length of Bearing in Stern Bush next to and supporting propeller 5'-11 1/2" ✓  
 diameter 18'-3" Pitch 17'-6" No. of Blades 4 State whether Moveable No. Total Developed Surface - square feet.  
 Are arrangements made so that steam can be led direct to the L.P. Turbine Yes. Can the H.P. or L.P. Turbine exhaust direct to the sea Yes

No. of Turbines fitted with astern wheels 1 Feed Pumps { No. and size One 11" x 7" x 24"; One 116/140 g.p.m.;  
 How driven Steam. One 200 g.p.m. ✓  
 connected to the Main Bilge Line { No. and size Three duplex 10" x 11" x 12"  
 How driven Steam.  
 Pumps, No. and size Two 12" x 14" x 12" duplex Lubricating Oil Pumps, including Spare Pump, No. and size One 7 1/2" x 9" x 12" duplex  
 independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pump No. and size—In Engine and Boiler Room One 3" dia. Port and Stb. bilges; Two 2 1/2" dia. port and star. to cofferdams.  
 &c. No. 1 hold one 3" dia. on centerline; Nos. 2, 3, 4, 5 holds one 3" dia. each port & star.; Tunnel well one 3" dia.  
 Independent Power Pump Direct Suctions to the Engine Room No. and size One 5" dia. Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes. ✓  
 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 Yes. ✓  
 Connections fitted direct on the skin of the ship Yes. ✓ Are they fitted with Valves or Cocks valves ✓  
 Are they 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 line Below. ✓  
 Are they fitted with a Discharge Valve always accessible on the plating of the vessel Yes. ✓ Are the Blow Off Cocks fitted with a spigot and brass covering plate Valves. ✓  
 Do they pass through the bunkers None ✓ How are they protected -  
 Do they pass through the deep tanks None ✓ Have they been tested as per rule -

Are the cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes. ✓  
 Are the arrangements 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 Yes. ✓ Is the Shaft Tunnel watertight Yes. ✓ Is it fitted with a watertight door Yes. ✓  
 worked from Main deck, lower E.R. & shaft tunnel.

BOILERS, &c.— (Letter for record) Total Heating Surface of Boilers **Boilers 6625 sq. ft. Superheaters 1582**

Is Forced Draft fitted **Yes.** No. and Description of Boilers **2 W.T. single drum, sinuous headers** Working Pressure **52**

Is a Report on Main Boilers now forwarded? **Yes.**

Is { a Donkey } Boiler fitted? **No.** If so, is a report now forwarded? **-**  
{ an Auxiliary }

Plans. Are approved plans forwarded herewith for Shafting **No** Main Boilers **Yes** Auxiliary Boilers **-** Donkey Boilers **-**  
(If not state date of approval)

Superheaters **No** General Pumping Arrangements **Yes** Oil Fuel Burning Arrangements **-**

Spare Gear. State the articles supplied:— **1 propeller and tailshaft in storage at Newport News S. & D.D.Co., 1 set coupling bolts, 1 set bearings of each size in reduction gears, 1 set turbine rotor b H.P. 1 set turbine packing, 1 set main thrust pads, 1 set turbine thrust pads, 1 set valves end of each pump. 1 complete impeller & shaft for main and auxiliary circulating pumps & tu pump. 1 set bearings & packing for each turbo generator, 1 set sealing rings & bearings ea pump, 1 set governor spares for turbo condensate pump, spare tubes for main and auxiliary c & L.O. coolers, 89 spare boiler tubes, 96 tube plugs for boilers, 12 spare superheater tube plugs, spare boiler manhole and handhole gaskets, 1 set tube cleaning equipment, 1 set tube each side, 20 firegrate sections, 1 safety valve, spring and stem, 1 spare motor for each of coal conveyer, forced draft fan, 1 spare armature for capstan and windlass, 1 bearing shell**

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops - }  
{ During erection on board vessel - }  
Total No. of visits

Dates of Examination of principal parts—Casings **March 9th, 1948** Rotors **March 9th, 1948** Blading **March 9th, 1948** Gearing **August 18th, 1948**  
Wheel shaft **March 26, 1948** Thrust shaft **March 26, 1948** Intermediate shafts **March 5th, 1948** Tube shaft **-** Screw shaft **August 18th, 1948**  
Propeller **March 4th, 1948** Stern tube **March 4, 1948** Engine and boiler seatings **July 12, 1948** Engine holding down bolts **July**  
Completion of pumping arrangements **Star. October 18, 1948** Boilers fixed **August 11, 1948.** Engines tried under steam **October**  
Main boiler safety valves adjusted **Port. October 19, 1948** of adjusting washers **None.**

Rotor shaft, Material and tensile strength **Steel** Identification Mark **-**  
Flexible Pinion Shaft, Material and tensile strength **Steel** Identification Mark **-**  
Pinion shaft, Material and tensile strength **Steel** Identification Mark **-**  
1st Reduction Wheel Shaft, Material and tensile strength **Steel.** Identification Mark **-**  
Wheel shaft, Material **Steel** Identification Mark **-** Thrust shaft, Material **Steel** Identification Mark **-**  
Intermediate shafts, Material **Steel** Identification Marks **-** Tube shaft, Material **-** Identification Marks **-**  
Screw shaft, Material **Steel** Identification Marks **9500-23-L -475-1 7-59-1-1 + EF 21245 Sets 2 H.** Steam Pipes, Material **Steel** Test pressure **1525**

Date of test **Dock trial Oct. 22nd. 1948. Sea trial Oct. 26, 1948.** Is an installation fitted for burning oil fuel **No.**

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 **No.** If so, have the requirements of the Rules been complied with **-**

Is this machinery a duplicate of a previous case **Yes** If so, state name of vessel **"VICTORY" Type vessels for U.S. Maritime Commission**

General Remarks (State quality of workmanship, opinions as to class, &c. **The machinery of this vessel has been examined and the quality of workmanship and material found satisfactory. The machinery was tested under working conditions and found to be in good, safe working condition and the vessel in our opinion eligible to receive the Notation of LMC. 10.48 in the Register Book.**

Certificate (if required) to be sent to  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee **£500.00** : When applied for, **Jan. 4 1949.**  
Special **£** : :  
Donkey Boiler Fee **£** : :  
Travelling Expenses (if any) **£** : :  
When received, **19**

**R.S. Haagenen**  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **NEW YORK FEB 9 1949**

Assigned **LMC-10, 48**

