

# Report on Steam Turbine Machinery. No. 10140

Rpt. 4a.

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Date of writing Report **5 May, 1954** When handed in at Local Office **5 May, 1954** Port of **PHILADELPHIA, PA.**  
No. in Survey held at **Essington, Pa.** Date, First Survey **26 April, 1954** Last Survey **27th April, 1954**  
Reg. Book (Number of Visits **two**)

on the \_\_\_\_\_ Tons (Gross \_\_\_\_\_ Net \_\_\_\_\_)  
Built at **Quincy, Mass.** By whom built **Bethlehem Steel Co.** Yard No. **1635** When built \_\_\_\_\_  
Engines & Gears made at **Essington, Pa.** By whom made **Westinghouse Elec. S.B. Div.** Serial No. **10A1508** When made **1954**  
Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. **3 & 4** When made \_\_\_\_\_  
Shaft Horse Power at Full Power \_\_\_\_\_ Owners **Orion Shipping Co.** Port belonging to \_\_\_\_\_  
Nom. Horse Power as per Rule \_\_\_\_\_ Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted **Yes**  
Trade for which Vessel is intended **Carrying petroleum in bulk.**

## STEAM TURBINE ENGINES, &c.—Description of Engines **400 K.W. Geared Turbine Generator Sets (2 units per ship)**

No. of Turbines **one** generator **one** No. of primary pinions to each set of reduction gearing **one**  
direct coupled to **Alternating Current Generator 3 phase 60 periods per second** rated **400 Kilowatts 440** Volts at **1200** revolutions per minute;  
for supplying power for driving **Auxiliary Machinery and Lighting.**  
rated \_\_\_\_\_ Kilowatts \_\_\_\_\_ Volts at \_\_\_\_\_ revolutions per minute. Direct coupled, single or double reduction geared to \_\_\_\_\_ propelling shafts.

TURBINE BLADING.	H. P.	I. P.	L. P.	ASTERN.
Impulse Blading { No. of rows _____	<b>8</b>			
Reaction Blading { No. of stages _____				
{ No. of rows in each stage _____				

Shaft Horse Power at each turbine { H.P. \_\_\_\_\_ I.P. \_\_\_\_\_ L.P. \_\_\_\_\_ } Revolutions per minute, at full power, of \_\_\_\_\_ Turbine Shaft { H.P. **9018** I.P. \_\_\_\_\_ L.P. \_\_\_\_\_ } 1st reduction wheel \_\_\_\_\_ main shaft **1200**

Rotor Shaft diameter at journals { H.P. **2"** I.P. \_\_\_\_\_ L.P. \_\_\_\_\_ } Pitch Circle Diameter { 1st pinion \_\_\_\_\_ main wheel **29.446** } Width of Face { 1st reduction wheel **10"** main wheel **10"**

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion **6-13/16"** main wheel **6-13/16"** } 1st \_\_\_\_\_ 2nd \_\_\_\_\_

Flexible Pinion Shafts, diameter at bearings { 1st \_\_\_\_\_ 2nd \_\_\_\_\_ } External diameter at bottom of pinion teeth { 1st **3.7076** 2nd \_\_\_\_\_ } Pinion Shafts, diameter at bearings { 1st **2-3/4"** 2nd \_\_\_\_\_ }

Wheel Shafts, diameter at bearings { 1st **4"** main \_\_\_\_\_ } diameter at wheel shroud, { 1st \_\_\_\_\_ main \_\_\_\_\_ } Generator Shaft, diameter at bearings **4"** 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 \_\_\_\_\_ Thickness between bushes 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 \_\_\_\_\_ Suctions, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room \_\_\_\_\_ In Pump Room \_\_\_\_\_

In Holds, &c. \_\_\_\_\_ Main Water Circulating Pump Direct Bilge Suctions, No. and size \_\_\_\_\_ Independent Power Pump Direct Suctions to the Engine 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.—(Letter for record \_\_\_\_\_) Total Heating Surface of Boilers \_\_\_\_\_ Working Pressure \_\_\_\_\_ Is Forced Draft fitted \_\_\_\_\_ No. and Description of Boilers \_\_\_\_\_

Is a Report on Main Boilers now forwarded? \_\_\_\_\_ cc: New York

NOTE.—The words which do not apply should be deleted. If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?



