

REC'D NEW YORK JUL 23 1954

# Report on Steam Turbine Machinery. No. 1695

Rpt. 4a.

Date of writing Report July 26, 1954 When handed in at Local Office \_\_\_\_\_ 19 \_\_\_\_\_ Port of \_\_\_\_\_ Received at London Office Cleveland, Ohio 4-DEC 1954  
 No. in Survey held at Milwaukee, Wisconsin Date, First Survey May 26th Last Survey May 27th, 1954  
 Reg. Book \_\_\_\_\_ S.S. MASTER PETER (Number of Visits 2)  
 on the MAIN PROPULSION GEAR FOR BULK OIL CARRIER Tons (Gross - Net -)

Built at Quincy, Mass By whom built Bethlehem Steel Co Yard No. 1635 When built \_\_\_\_\_  
 Engines made at \_\_\_\_\_ By whom made \_\_\_\_\_ Engine No. \_\_\_\_\_ When made \_\_\_\_\_  
 Gears \_\_\_\_\_ Gear 52400100-2  
 Boilers made at Milwaukee, Wis. By whom made Falk Corporation Boiler No. \_\_\_\_\_ When made 1954  
 Shaft Horse Power at Full Power 13600 Owners Orion Shipping Company Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Rule \_\_\_\_\_ Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_  
 Trade for which Vessel is intended \_\_\_\_\_

**STEAM TURBINE ENGINES, &c.**—Description of Engines. \_\_\_\_\_  
 No. of Turbines <sup>Ahead</sup> \_\_\_\_\_ <sup>Astern</sup> \_\_\_\_\_ ~~Direct coupled~~ ~~single reduction geared~~ ~~double reduction geared~~ to One propelling shafts. No. of primary pinions to each set of reduction gearing \_\_\_\_\_  
 direct coupled to Alternating Current Generator \_\_\_\_\_ phase \_\_\_\_\_ periods per second \_\_\_\_\_ rated \_\_\_\_\_ Kilowatts \_\_\_\_\_ Volts at \_\_\_\_\_ revolutions per minute;  
 for supplying power for driving \_\_\_\_\_ Propelling Motors, Type \_\_\_\_\_  
 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 _____ No. of stages _____	---	---	---	---
Reaction Blading { No. of rows in each stage _____	---	---	---	---

Shaft Horse Power at each turbine { H.P. 6150 \_\_\_\_\_  
I.P. \_\_\_\_\_ HP 11.308"  
L.P. 7450 \_\_\_\_\_ LP 20.193"  
Revolutions per minute, at full power, of each Turbine Shaft { H.P. 4773 1st reduction wheel 779  
I.P. \_\_\_\_\_ main shaft 109  
L.P. 2673

Rotor Shaft diameter at journals { H.P. \_\_\_\_\_ Pitch Circle Diameter { 1st pinion 69.304" 1st reduction wheel 10.875"  
I.P. \_\_\_\_\_ 2nd pinion 23.308" main wheel 166.554" Face { main wheel 20" x 2  
L.P. \_\_\_\_\_

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 35.5; 36" 1st reduction wheel 11.687"  
2nd pinion 38.75" main wheel 30.25"

Flexible Pinion Shafts, diameter { 1st \_\_\_\_\_ Pinion Shafts, diameter at bearings { ~~Integral~~ HP 6.986" 17.975" 1st 10.925"  
2nd \_\_\_\_\_ LP 8.983" 17.975" diameter at bottom of pinion teeth 2nd 19.813"  
Wheel Shafts, diameter at bearings { 1st 17.975" Integral diameter at wheel shroud { 1st 65.59" Generator Shaft, diameter at bearings \_\_\_\_\_  
main 22.477" main 166.95" Propelling Motor Shaft, diameter at bearings \_\_\_\_\_

Intermediate Shafts, diameter as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Thrust Shaft, diameter at collars as per rule \_\_\_\_\_ as fitted 22.477"  
Tube Shaft, diameter as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Screw Shaft, diameter as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Is the { tube } shaft fitted with a continuous liner { \_\_\_\_\_  
screw } \_\_\_\_\_

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 \_\_\_\_\_

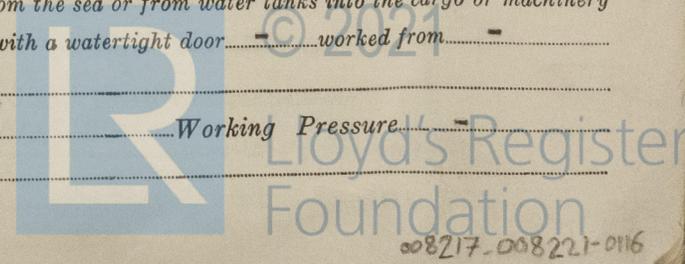
Pumps connected to the Main Bilge Line { No. and size \_\_\_\_\_  
How driven \_\_\_\_\_  
Ballast Pumps, No. and size \_\_\_\_\_ Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_  
Are two independent means arranged for circulating water through the Oil Cooler \_\_\_\_\_ Suctions, 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 \_\_\_\_\_  
Is Forced Draft fitted \_\_\_\_\_ No. and Description of Boilers \_\_\_\_\_ Working Pressure \_\_\_\_\_  
Is a Report on Main Boilers now forwarded? \_\_\_\_\_

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?



008217-008221-0116

Is  a Donkey Boiler fitted?  If so, is a report now forwarded?   
 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 <sup>Gears</sup> 1-7-53 at NY 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?  Rule Requirements   
 State the principal additional spare gear supplied.

Copies of this report sent to London, New York and Quincy.

NOTE: Three minor sand deposits found on the side flange inner circumference of the main gear. These were cleaned out and are not considered to be of any consequence.

The foregoing is a correct description.

Dates of Survey while building: During progress of work in shops - - May 26, 27, 1954  
 During erection on board vessel - -  
 Total No. of visits 2

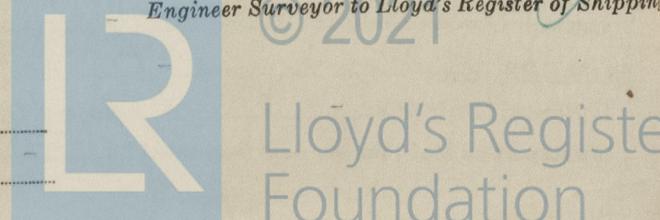
Dates of Examination of principal parts—Casings  Rotors  Blading  Gearing 5-27-54  
 Wheel shaft 5-27-54 Thrust shaft 5-27-54 Intermediate shafts  Tube shaft  Screw shaft   
 Propeller  Stern tube  Engine and boiler seatings  Engine holding down bolts   
 Completion of fitting sea connections  Completion of pumping arrangements  Boilers fixed  Engines tried under steam   
 Main boiler safety valves adjusted  Thickness of adjusting washers   
 Rotor shaft, Material and tensile strength  Identification Mark   
 Flexible Pinion Shaft, Material and tensile strength  Identification Mark   
 Pinion shaft, Material and tensile strength O. H. Forged Steel Identification Mark LLOYDS

; Chemical analysis   
 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 O. H. Forged Steel Identification Mark LLOYDS  
 Wheel shaft, Material OH Steel Identification Mark LLOYDS 606 Thrust shaft, Material OH Steel Identification Mark LL  
 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   
 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  Yes If so, state name of vessel Quincy Hulls 1630/32

General Remarks. (State quality of workmanship, opinions as to class, &c.) This set of main propulsion gears was built under survey and to approved plans, the materials, having been tested by the Surveyors and workmanship found of good quality throughout (see note above). It was tested under load ahead and astern with satisfactory results. It was then completely dismantled and all components visually examined and found in satisfactory condition. It is therefore recommended that the unit be incorporated in the vessel's record of \*LMC (with date) subject to it being installed aboard and tested under working conditions all to the satisfaction of the Society's Surveyors.

Arranged fee to be charged on completion of vessel.

The amount of Entry Fee ... : : When applied for  
 Special ... : : 19 FOR: J. F. Kline and R. S. Hagen  
 Donkey Boiler Fee ... : : When received  
 Travelling Expenses (if any) \$85.00 : : 19  
 Committee's Minute NEW YORK NOV 17 1954  
 Assigned see attached 1st entry report



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

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