

REPORT ON/STEAM TURBINE MACHINERY. No. 3648

4a. Date of writing Report July 8, 1941 When handed in at Local Office 19 Port of Boston, Massachusetts
No. in Survey held at Lynn, Mass. Date, First Survey August 14, 1940 Last Survey March 24, 1941
Reg. Book. on the Hulls Nos. 4353, 4354, 4355 and 4356 S/S 'Catawba' (Number of Visits 7)
Gross 4353-4354 Tons Net
Built at Sparrows Point, Md. By whom built Bethlehem Steel Company Yard No. 4355-4356 When built 1941
Engines made at Lynn, Mass. By whom made General Electric Company Engine No. 45942 When made 1941
Boilers made at By whom made Boiler No. When made
Shaft Horse Power at Full Power Owners 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

STEAM TURBINE ENGINES, &c. - Description of Engines One turbine connected to 300-K.W. Generator thru single reduction gears.
No. of Turbines One Direct coupled, single reduction geared to propelling shafts No. of primary pinions to each set of reduction gearing One
Direct coupled to Direct Current Generator rated 300 Kilowatts 240 Volts at 1200 revolutions per minute;
supplying power for driving Propelling Motors, Type Auxiliary Machinery and Electric lighting
Direct coupled, single or double reduction geared to propelling shafts.

Table with columns: TURBINE, H.P., I.P., L.P., ASTERN. Rows include: 1st Wheel, 2nd Wheel, 3rd Wheel, 4th Wheel, 5th Wheel, 6th Wheel, 7th Wheel, 8th Wheel, 9th Wheel, 10th Wheel.

Shaft Horse Power at each turbine H.P. 5636 I.P. 1200 L.P. 1200
Pitch Circle Diameter 1st pinion 5.4414" 1st reduction wheel Width of Face 1st reduction wheel 7-1/2"
Pitch Circle Diameter 2nd pinion main wheel 25.5585"
Pitch Circle Diameter 1st pinion 6-5/8" & 7-5/8" 1st reduction wheel Pitch Circle Diameter 2nd pinion main wheel 6-3/4"
Pinion Shafts, diameter at bearings 1st 4" 2nd 4" diameter at bottom of pinion teeth 1st 5.0664" 2nd
Generator Shaft, diameter at bearings 3-1/2"
Propelling Motor Shaft, diameter at bearings
Thrust Shaft, diameter at collars
Screw Shaft, diameter
Thickness between bushes
Is the after end of the liner made watertight in the
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
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
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
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.
single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.P. Turbine exhaust direct to the
No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven

Oil Pumps connected to the Main Bilge Line No. and size How driven
Lubricating Oil Pumps, including Spare Pump, No. and size
Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge In Pump Room
Independent Power Pump Direct Suctions to the Engine Room
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes
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
all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
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
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
How are they protected
Have they been tested as per rule
all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
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
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? _____

Is { a Donkey } Boiler fitted? _____ If so, is a report now forwarded? _____
 { an Auxiliary }

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 _____

SPARE GEAR.

Has the spare gear required by the Rules been supplied _____

State the principal additional spare gear supplied Two gear and two pinion bearings, one thrust bearing, fourteen coupling bolts, six turbine casing bolts, one turbine bearing.

PER SHIP

The foregoing is a correct description,

Gen Electric Co. per J. T. Polan Manufacture _____

Dates of Survey while building { During progress of work in shops - - } August 14, October 2, 22, 26, November 12, 23, 1940 and March 24, 1941
 { During erection on board vessel - - - }
 Total No. of visits Seven

Dates of Examination of principal parts—Casings Mar. 24, 1941 Rotors Mar. 24, 1941 Blading Mar. 24, 1941 Gearing Mar. 24, 1941

Wheel shaft Mar. 24, 1941 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 O.H. Steel 92,000 lbs. per sq. in. Identification Mark 379 24-3-41 T

Flexible Pinion Shaft, Material and tensile strength _____ Identification Mark _____

Pinion shaft, Material and tensile strength O.H. Steel 111,000 lbs. per sq. in. Identification Mark 379 24-3-41 T

1st Reduction Wheel Shaft, Material and tensile strength _____ Identification Mark _____

Wheel shaft, Material O.H. Steel Identification Mark 379 24-3-41 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 _____

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 _____ If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c.) The geared turbine electric generator has been built under Special Survey, tested under steam at full load and the oil governors adjusted to trip at 1340 RPM. The quality of workmanship and materials is good. The units have been forwarded to Bethlehem Steel Company, Sparrows Point, Md.

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 ... £	:	:	When applied for,
Special ... £ \$ 75.00	:	:	8-7 1941
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £ 2.50	:	:	19

Thomas Davis
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK MAY 27 1942 now

Assigned See attached first Entry Rpt.

