

REPORT ON STEAM TURBINE MACHINERY. No. 8100

Date of writing Report 12 Aug 41 When handed in at Local Office 13 Aug 41 Port of Philadelphia
 No. in Survey held at Hendon NJ Date, First Survey 18 March Last Survey 11 July 1941
 Reg. Book. Hull 1491 "Sinclair H.C." (Number of Visits 2)

Built at Jore River Mass. By whom built Bethlehem Steel Co Yard No. 1491 Tons } Gross
 Engines made at Hendon NJ By whom made De Laval Steam Turbine Co Engine No. 230910 When built } Net
 Boilers made at _____ By whom made _____ Boiler No. _____ When made _____
 Shaft Horse Power at Full Power 4000 Owners Sinclair Refining Co Port belonging to _____
 Nom. Horse Power as per Rule 905 898 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted Yes
 Trade for which Vessel is intended Carrying Petroleum in bulk.

STEAM TURBINE ENGINES, &c.—Description of Engines De Laval Impulse Compound

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

Divided _____ Kilowatts _____ Volts at _____ revolutions per minute. Direct coupled, single or double reduction geared to _____ propelling shafts.

TURBINE STAGE	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.		
1st EXPANSION	1.600"	22.800"	1	X	X	X	1.020"	31.476"	1	0.770"	31.200"	1		
2nd	0.560"	16.316"	1				1.185"	33.246"	1	1.390"	36.796"	1		
3rd	0.615"	16.466"	1				1.680"	35.676"	1	3.750"	39.570"	1		
4th	0.685"	16.606"	1				2.000"	37.796"	1					
5th	0.760"	16.756"	1				3.100"	40.160"	1					
6th	0.845"	16.926"	1				4.800"	41.880"	1					
7th	0.605"	20.146"	1				8.800"	45.948"	1					
8th	0.700"	20.336"	1											
9th	0.820"	20.576"	1											
10th	0.915"	20.846"	1											
11th	1.115"	21.166"	1											

Shaft Horse Power at each turbine { H.P. 2000 }
 { I.P. _____ }
 { L.P. 2000 }
 Propeller Shaft diameter at journals { H.P. 7" }
 { I.P. _____ }
 { L.P. 7" }

Pitch Circle Diameter { 1st pinion 9.200 LP }
 { 2nd pinion 13.041 }
 1st reduction wheel 48.200"
 main wheel 124.947"
 Width of Face { 1st reduction wheel 14" }
 { main wheel 29" }

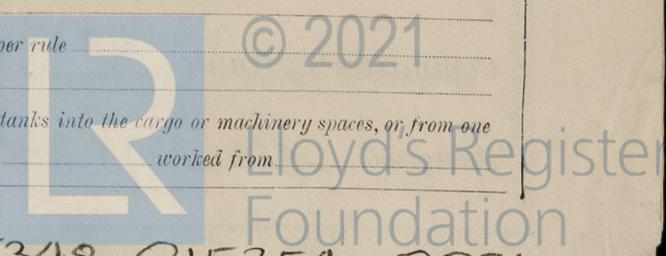
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 10 1/4" }
 { 2nd pinion 20 7/8" }
 1st reduction wheel 12 7/8"
 main wheel 21 7/8"

Pinion Shafts, diameter at bearings { External 1st 4 1/2" }
 { Internal 1st 8" }
 { 2nd 7" }
 diameter at bottom of pinion teeth { 1st 6.584 HP }
 { 2nd 8.784 LP }
 Generator Shaft, diameter at bearings _____
 Propelling Motor Shaft, diameter at bearings _____

Wheel Shafts, diameter at bearings { 1st 6 1/2" }
 { main 16" }
 diameter at wheel shroud, { 1st 8" }
 { main 20" }
 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 _____

Propeller Shaft, diameter as per rule _____
 as fitted _____ Is the { tube } shaft fitted with a continuous liner { _____ }
 { screw }
 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 _____
 other appliance fitted at the after end of the tube shaft _____
 Length of Bearing in Stern Bush next to and supporting propeller _____

Propeller, diameter _____ Pitch _____ No. of Blades _____ State whether Movable _____ Total Developed Surface _____ square feet.
 Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes Can the H.P. or I.P. Turbine exhaust direct to the _____
 Condenser Yes No. of Turbines fitted with astern wheels 1 Feed Pumps { No. and size _____ }
 { How driven _____ }
 Pumps connected to the Main Bilge Line { No. and size _____ }
 { How driven _____ }
 Bilge Pumps, No. and size _____ Lubricating Oil Pumps, including Spare Pump, No. and size _____
 two independent means arranged for circulating water through the Oil Cooler _____ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge _____
 pumps, No. and size:—In Engine and Boiler Room _____
 Holds, &c. _____
 in Water Circulating Pump Direct Bilge Suctions, No. and size _____ 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 _____
 at pipes pass through the bunkers _____ How are they protected _____
 at pipes pass through the deep tanks _____ 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 _____
 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?

Is a Donkey Boiler fitted? If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:— As per rule.

The foregoing is a correct description,

De Laval Steam Turbine Engine, per, [Signature]

Dates of Survey while building: March 18, April 18, May 6, June 10, 28, 30, July 9, 11, 1941

Dates of Examination of principal parts: Casings 11 July Rotors 11 July Blading 11 July Gearing 11 July

Main boiler safety valves adjusted, Rotor shaft, Material and tensile strength HP. 103,000, 108,500, 105,000. OH Steel Identification Mark 3491.GD

Is this machinery a duplicate of a previous case? Yes. If so, state name of vessel: 1490

General Remarks: This installation has been built under Special Survey, and in accordance with the approved plans, the workmanship & materials are good.

Table with 2 columns: Fee Type (Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses) and Amount (\$30.00, \$200.00, \$, \$30.00)

[Signature] Engineer Surveyor to Lloyd's Register of Shipping.

NEW YORK JAN 28 1942 Committee's Minute Assigned See N.Y.K. RPT. NO. 42056

