

ft. 4a.

AUX
REPORT ON STEAM TURBINE MACHINERY.

No. 8129

Date of writing Report Sept 20 1941 When handed in at Local Office Sept 20 1941 Port of Philadelphia Received at London Office 4 APR 1942
No. in Survey held at Hendon NJ Date, First Survey 11 July Last Survey 20 Aug 1941
Reg. Book. on the Hull 193 (Number of Visits 2)
Built at Hendon NJ By whom built Federal SB Co Yard No. 192 When built
Engines made at Hendon NJ By whom made De Laval Steam Turbine Co Engine No. 231374 When made 1941
Boilers made at By whom made Boiler No. When made
Shaft Horse Power at Full Power Owners Smclair Navigation 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

STEAM TURBINE ENGINES, &c.—Description of Engines

Steam Turbine

No. of Turbines 1 Ahead 1 Direct coupled 1 single reduction geared 1 to 1 propelling shafts No. of primary pinions to each set of reduction gearing 1
Direct coupled to { Alternating Current Generator phase periods per second } rated 250 Kilowatts 240 Volts at 1200 revolutions per minute;
or 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 LADING.

	HEIGHT OF BLADES.	H.P. DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	I.P. DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	I.P. DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	ASTERN. DIAMETER AT TIP.	NO. OF ROWS.
1st EXPANSION	<u>1.78</u>	<u>20.720</u>	<u>1</u>									
2nd	<u>.780</u>	<u>20.720</u>	<u>1</u>									
3rd	<u>.620</u>	<u>23.830</u>	<u>1</u>									
4th	<u>1.140</u>	<u>24.120</u>	<u>1</u>									
5th	<u>.920</u>	<u>20.780</u>	<u>1</u>									
6th	<u>1.310</u>	<u>21.090</u>	<u>1</u>									
7th	<u>1.720</u>	<u>21.630</u>	<u>1</u>									
8th	<u>2.860</u>	<u>22.306</u>	<u>1</u>									
9th												
10th												
11th												
12th												

Shaft Horse Power at each turbine { H.P. 367 I.P. 367 L.P. 367 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 5650 I.P. 5650 L.P. 5650 } 1st reduction wheel
Rotor Shaft diameter at journals { H.P. 3" I.P. 3" L.P. 3" } Pitch Circle Diameter { 1st pinion 4.890" 1st reduction wheel 23.000" 2nd pinion 6 1/8" main wheel 7" } Width of Face { 1st reduction wheel 6 1/2" main wheel 7" }
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 2 1/2" 2nd pinion 6 1/8" } 1st reduction wheel 7" main wheel 7"
Flexible Pinion Shafts, diameter { 1st 4 1/2" 2nd 4 1/2" } Pinion Shafts, diameter at bearings { External 1st 6 1/2" 2nd 6 1/2" } diameter at bottom of pinion teeth { 1st 4.618" 2nd 4.618" }
Wheel Shafts, diameter at bearings { 1st 4 1/2" 2nd 4 1/2" } diameter at wheel shroud, { 1st 6 1/2" 2nd 6 1/2" } Generator Shaft, diameter at bearings 3" 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 as fitted
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
elastic 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 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. Turbine 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 to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size:—In Engine and Boiler Room
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
That pipes pass through the bunkers How are they protected
That 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?

Is { a Donkey } Boiler fitted?
{ an Auxilliary }

If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting
(If not state date of approval)

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Spare Gear.

State the articles supplied:—

1 thermometer, 2 springs, 2 springs for governor, 2 sets coupling bolts, 1 set oil pump gears, 1 set carbon rings, thrust rings & shoes, 1 set of turbine pinion & gear bearings, 4 studs for turbine casing joint, 1 gear case joint, 1 set of special wrenches.

The foregoing is a correct description,

D & Laval Steam Turbine Co
S. Mitchell, Manufacturer

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

11 July 20 Aug 1941

Dates of Examination of principal parts—Casings

20 Aug

Rotors

20 Aug

Blading

20 Aug

Gearing

20 Aug

Wheel shaft

20 Aug

Thrust shaft

Intermediate shafts

Tube shaft

Screw shaft

Propeller

Stern tube

Engine and boiler seatings

Engine holding down bolts

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

OH Steel

99500 lbs.

Identification Mark

1937 JKH

Flexible Pinion Shaft, Material and tensile strength

Pinion shaft, Material and tensile strength

OH Steel

107000 lbs

Identification Mark

Identification Mark

1935 JKH

1st Reduction Wheel Shaft, Material and tensile strength

Identification Mark

Wheel shaft, Material

OH Steel

Identification Mark

1936 JKH

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

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.)

This generating set has been constructed under Special Survey and in accordance with the approved plans, the workmanship & materials are good. It has been tested in the shop under full load, over load & over speed all found satisfactory. The unit has been shipped to the Federal S.B.C. leaving N.Y. for installation on board the vessel.

The amount of Entry Fee

\$75.00

When applied for,

Special

\$7.50

22 Sept. 1941

Donkey Boiler Fee

\$7.50

When received,

Travelling Expenses (if any)

\$

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M. R. Cunningham
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK FEB 25 1942

Assigned

See N.Y.K. RPT. NO. 42143.



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