

REPORT ON STEAM TURBINE MACHINERY. No. 4248

Received at London Office 22 SEP 1949

pt. 4a.

of writing Report. 25 January 1949 When handed in at Local Office. 19 Port of Boston, Massachusetts
in Survey held at Fitchburg, Mass. Date, First Survey 30 November Last Survey 1 December 1948
Reg. Book on the RAS AL ARPE (Number of Visits 2)
Tons { Gross
Net
uilt at Chester, Pa. By whom built Sun Shipbuilding & Dry Dock Co. Yard No. When built
Engines made at Fitchburg, Mass. By whom made General Electric Co. Engine No. 71562 When made 1948
ilers made at By whom made Gear No. 86342 When made
aft Horse Power at Full Power Owners Gulf Oil Corporation Generator No. 6806204 Port belonging to
om. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
ade for which Vessel is intended

TEAM TURBINE ENGINES, &c.—Description of Engines Geared Turbine Generator Set

Ahead One ~~Direct coupled~~ single reduction geared } to propelling shafts. No. of primary pinions to each set of reduction gearing
Astern ~~Direct coupled~~ ~~Double reduction geared~~
Alternating Current Generator 3 phase 60 periods per second } rated 400 Kilowatts 440 Volts at 1200 revolutions per minute;
Direct Current Generator
supplying power for driving ~~Propelling Motor~~ Auxiliary Machinery and Lighting
Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE LADING.

	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.
ST EXPANSION	.440"	19.342"	1									
ND "	.695"	17.597"	1									
RD "	1.110"	17.614"	1									
TH "	1.040"	18.372"	1									
V. 3 TH "	1.420"	19.102"	1									
PH "	2.200"	20.230"	1									
TH "												
TH "												
TH "												
TH "												
TH "												
TH "												

ft Horse Power at each turbine { H.P. 10,059 1st reduction wheel
I.P. Revolutions per minute, at full power, of each Turbine Shaft I.P. main shaft 1200
L.P.
Pitch Circle { 1st pinion 3.4" 1st reduction wheel
Diameter { 2nd pinion main wheel 28.5" Width of Face { 1st reduction wheel 8-1/4"
main wheel 8-1/4"
ance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 6" 1st reduction wheel
2nd pinion main wheel 6"
Pinion Shafts, diameter at bearings External 1st { 3" 2nd { diameter at bottom of pinion teeth { 1st 3.1686"
Internal 2nd {
eel Shafts, diameter at bearings { 1st diameter at wheel shroud, { 1st Generator Shaft, diameter at bearings 3"
main 4" main 4-1/8" Propelling Motor Shaft, diameter at bearings
mediate Shafts, diameter as per rule Thrust Shaft, diameter at collars as per rule Tube Shaft, diameter as per rule
as fitted as fitted as fitted as fitted
Shaft, diameter as per rule Is the { tube } shaft fitted with a continuous liner { Bronze Liners, thickness in way of bushes as per rule
as fitted as fitted as fitted as fitted
ess between bushes as per rule 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
ave b 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
found e 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
ber appliance fitted at the after end of the tube shaft Length of Bearing in Stern Bush next to and supporting propeller
oeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.
ngle 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
enser No. of Turbines fitted with astern wheels Feed Pumps { No. and size
How driven
ps connected to the Main Bilge Line { No. and size
How driven
st Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size
vo independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
s, No. and size:—In Engine and Boiler Room
olds, &c.

Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes
e 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
l Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
ey 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
ey 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
pipes pass through the bunkers How are they protected
pipes pass through the deep tanks Have they been tested as per rule
Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
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
tment 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?.....
{ an Auxiliary }

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. State the articles supplied:— One set of bearing linings for all bearings, one set of bearing bolts
and casing bolts

The foregoing is a correct description,

CC Janner

Ge Co Manufacturer

Dates of Survey while building { During progress of work in shops - - } November 30, December 1, 1948
{ During erection on board vessel - - }
Total No. of visits. Two

Dates of Examination of principal parts—Casings November 30, 1948 Rotors November 30, 1948 Blading November 30, 1948 Gearing November 30, 1948

Wheel shaft 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 O. H. Steel-110,100 lbs. Identification Mark LR 200 30-11-48 T.B.

~~XXXXXX~~ Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength O. H. Steel-99,750 lbs. Identification Mark LR 200 30-11-48 T.

1st Reduction Wheel Shaft, Material and tensile strength O. H. Steel-86,500 lbs. Identification Mark LR 200 30-11-48 T.

Wheel shaft, Material Identification Mark 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. The geared turbine electric generator has been tested under Special Survey in accordance with approved plans. The forgings and castings were tested by A. B. S. Surveyors and for particulars of test, please refer to attached list. The Machinery was tested under steam at various loads and found efficient and the overspeed governor was adjusted to trip at 1340 R.P.M. The unit has been forwarded to the Sun Shipbuilding & Dry Dock Co., Chester, Pa. For identification purposes, the Turbine was marked: LR 200 30-11-48 T. B.

Arranged fee to be charged by Philadelphia Surveyors on completion

The amount of Entry Fee £	:	:	When applied for,
Special £	:	:	19
Donkey Boiler Fee £	:	:	When received,
Travelling Expenses (if any)	£ \$ 6.00	:	:	19

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

Committee's Minute

NEW YORK AUG 31 1949

Assigned *See First Entry Report attached*



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Foundation