

AUXILIARY
REPORT ON STEAM TURBINE MACHINERY.

No. 4249
22 SEP 1949

pt. 4a.

of writing Report 25 January 1949 When handed in at Local Office

in Survey held at Fitchburg, Mass.

Reg. Book

on the

ilt at Chester, Pa.

gines made at Fitchburg, Mass.

bolts
ilers made at

aft Horse Power at Full Power

om. Horse Power as per Rule

ade for which Vessel is intended

Port of Boston, Massachusetts

Date, First Survey 30 November

Last Survey 1 December

19 48

(Number of Visits 2)

Tons { Gross
Net

By whom built Sun Shipbuilding & Dry

Yard No.

When built

By whom made General Electric Dock Co. Turb.

Gear No. 71563

When made

1948

By whom made

Generator No. 86343

When made

Owners Gulf Oil Corporation

Generator No. 6806211

Port belonging to

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

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

of Turbines Ahead One

~~Direct coupled~~

single reduction geared

propelling shafts. No. of primary pinions to each set of reduction gearing

Alternating Current Generator 3 phase

60 periods per second

rated 400 Kilowatts 440

Volts at 1200

revolutions per minute;

supplying power for driving

~~Propelling Motor Type~~

Auxiliary Machinery and Lighting

Kilowatts

Volts at

revolutions per minute. Direct coupled, single or double reduction geared to

propelling shafts.

T. EXPANSION	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.
1	.440"	19.342"	1									
2	.695"	17.597"	1									
3	1.110"	17.614"	1									
4	1.040"	18.372"	1									
5	1.420"	19.102"	1									
6	2.200"	20.230"	1									
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ft Horse Power at each turbine

H.P.

I.P.

L.P.

Revolutions per minute, at full power, of each Turbine Shaft

H.P.

I.P.

L.P.

10,059

1st reduction wheel

main shaft 1200

or Shaft diameter at journals

H.P.

I.P.

L.P.

2.50"

Pitch Circle

Diameter

1st pinion 3.4"

1st reduction wheel

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

main wheel 6"

ible Pinion

1st

2nd

Pinion Shafts, diameter at bearings

External

Internal

1st 3"

2nd

diameter at bottom of pinion teeth

1st 3.1686"

2nd

el Shafts, diameter at bearings

1st

main 4"

diameter at wheel shroud

1st

main 4-1/8"

Generator Shaft, diameter at bearings

3"

mediate 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

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

ness 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

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

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

er appliance fitted at the after end of the tube shaft

Length of Bearing in Stern Bush next to and supporting propeller

State whether Moveable

Total Developed Surface

square feet.

eller, 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

msr No. of Turbines fitted with astern wheels

Feed Pumps

No. and size

How driven

os 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

No. and size

Independent means arranged for circulating water through the Oil Cooler

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size

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

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 Auxiliary }

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:— One set of bearing linings for all bearings, one set of bearing bolts
and casing bolts

The foregoing is a correct description,

C. E. James & Co.

Manufacturers

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—Casing 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-126,000 lbs.

Identification Mark LR 201 30-11

~~XXXXXX~~ Shaft, Material and tensile strength

Identification Mark

Pinion shaft, Material and tensile strength O. H. Steel 99,500 lbs.

Identification Mark LR 201 30-11

1st Reduction Wheel Shaft, Material and tensile strength O. H. Steel 88,500 lbs.

Identification Mark LR 201 30-11

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 201 30-11-48 T.

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

Engine 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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