

REPORT ON STEAM TURBINE MACHINERY.

No. 9313
22 SEP 1949

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of writing Report 23rd Aug., 1949. When handed in at Local Office 23rd Aug., 1949. Port of PHILADELPHIA, PA.
in Survey held at Chester, Pa. Date, First Survey 1st April, Last Survey 15th June, 1949.
eg. Book
on the S.S. "RAS AL ARDH" - Sun Hull No. 569 (Number of Visits)
lt at Chester, Pa. By whom built Sun S.B. & D.D. Co. Yard No. 569 When built 1949
ines made at Fitchburg, Mass. By whom made General Elec. Co. Turb. No. 71562 When made 1948
lers made at By whom made Gear No. 86342 When made
ft Horse Power at Full Power Owners Kupan Transport Co. Generator No. 6806204
m. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Port belonging to
de for which Vessel is intended Is Electric Light fitted

STEAM 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 ~~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 Motors~~ Auxiliary Machinery and Lighting
Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE LOADING.	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.
EXPANSION	.440"	19.342"	1									
"	.695"	17.597"	1									
"	1.110"	17.614"	1									
"	1.040"	18.372"	1									
"	1.420"	19.102"	1									
"	2.200"	20.230"	1									
"												
"												
"												
"												
"												
"												
"												

ft Horse Power at each turbine { H.P. 10,059 1st reduction wheel
I.P. 1200
L.P. main shaft

or Shaft diameter at journals { H.P. 2.50" Pitch Circle { 1st pinion 3.4" 1st reduction wheel
I.P. Diameter { 2nd pinion main wheel 28.5" Width of { 1st reduction wheel 8-1/4"
L.P. Face { 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"

ible Pinion { 1st Pinion Shafts, diameter at bearings External 1st { 3" 2nd { diameter at bottom of pinion teeth { 1st 3.1686"
fts, diameter { 2nd Internal 1st { 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

ew 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

kness 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
as fitted as fitted as fitted as fitted

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
ic 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

ther appliance fitted at the after end of the tube shaft. Length of Bearing in Stern Bush next to and supporting propeller.
peller, 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
Dry
lenser 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

ast 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

ps, No. and size:—In Engine and Boiler Room
olds, &c.

n Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
s, No. and size 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

t pipes pass through the bunkers. How are they protected
t 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.
e 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
partment to another. Is the Shaft Tunnel watertight. Is it fitted with a watertight door. worked from

010355-010361-0235

BOILERS, &c.— (Letter for record.....) Total Heating Surface of Boilers..... Working Pressure.....

Is Forced Draft fitted..... No. and Description of Boilers.....

Is a Report on Main Boilers now forwarded?..... If so, is a report now forwarded?.....

Is { a Donkey } Boiler fitted?..... Main Boilers..... Auxiliary Boilers..... Donkey Boilers.....

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

Superheaters..... General Pumping 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,

Dates of Survey while building { During progress of work in shops - - } November 30, December 1, 1948 { During erection on board vessel - - } April 1, May 23 and June 15, 1949 Total No. of visits Five

Dates of Examination of principal parts—Casings Nov. 30, 1948 Rotors Nov. 30, 1948 Blading Nov. 30, 1948 Gearing Nov. 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 Identification Mark LR 200 30-1

Rotor shaft, Material and tensile strength O.H. Steel - 110,000 lbs. Identification Mark

Pinion shaft, Material and tensile strength O.H. Steel - 99,750 lbs. Identification Mark LR 200 30-1

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

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 above turbo electric generator sets have been satisfactorily installed on board the vessel, tried out under full working conditions and found in good order.

The amount of Entry Fee £ : : When applied for, 18 Jul. 49 Special £ As : : per F.A.G. Donkey Boiler Fee £ Agreed : : When received, 23 Aug. 49 Travelling Expenses (if any) £ : : 23 Aug. 49

Committee's Minute NEW YORK AUG 31 1949

Assigned See attached Report.

W. A. P. Engineer Surveyor to Lloyd's Register of Shipping.