

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

No. 119224

24 OCT 1949

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Received at London Office

10 NOV 1949

held at LONDON

Port of LONDON

Date, First Survey 20-5-47

Last Survey 19-8-49

(Number of Visits 127)

Triple screw icebreaker "LAZAR KAGONOVICH"

NICOLAIEFF

By whom built ANDRE MARTI S. B. YD (USSR Plant No. 198)

Tons Gross 5621 Net 1734

at NICOLAIEFF

By whom made - do -

Engine No.

When built 1938-12

at NICOLAIEFF

By whom made - do -

Boiler No.

When made 1938

orse Power

Owners

U.S.S.R.

When made 1938

ower as per Rule

M.N. 2466

Port belonging to VLADIVOSTOK

Is vessel intended

Icebreaker

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

YES

&c. Description of Engines

TRIPLE EXPANSION

Three main engines

ers 560, 970, 1680 m/m

Length of Stroke 1140 m/m

No. of Cylinders

THREE

Revs. per minute 120

as per Rule

348.4 m/m

Crank pin dia.

358 m/m

Crank webs

Mid. length breadth

No. of Cranks

THREE

as fitted

358 m/m

Mid. length thickness

240 m/m

Thickness parallel to axis

239.6 m/m

Thickness around eye-hole

140 m/m

Shafts, diameter

as per Rule

331.8 m/m

Thrust shaft, diameter at collars

as per Rule

360 m/m

diameter

as fitted

360 m/m

Screw Shaft, diameter

as per Rule

430 m/m

Is the

screw

shaft fitted with a continuous liner

No

ers, 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

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

ers are fitted, is the shaft lapped or protected between the liners

YES

If so, state type

CEDARVAL VICKERS TYPE

Is an approved Oil Gland or other appliance fitted at the after end of the tube

dia. 4500 m/m

Pitch 4.06 m/m

No. of Blades

FOUR

Material

best steel

Length of Bearing in Stern Bush next to and supporting propeller

whether Moveable

YES

Total Developed Surface

3807 sq. feet

mps worked from the Main Engines, No.

none

Diameter

Stroke

Can one be overhauled while the other is at work

YES

mps worked from the Main Engines, No.

none

Diameter

Stroke

Can one be overhauled while the other is at work

YES

No. and size

2-80 tons 3-40 tons

Pumps connected to the

Main Bilge Line

No. and size

2-duplex 100 tons

1-centrifugal 1500 tons

How driven

Vertical steam engines

- do -

Pumps, No. and size

2 pumps connected to main line

Lubricating Oil Pumps, including Spare Pump, No. and size

2-duplex 100 tons

1-centrifugal 1500 tons

How driven

Vertical steam engines

- do -

Integral with turbo-generators

- do -

independent means arranged for circulating water through the

Oil Cooler

or Turbo Generator

YES

Suctions, connected both to Main Bilge Pumps and Auxiliary

Pumps

In Engine and Boiler Room

8-3" in E.R. 1-3" in Aft Well. 8-3" in B.R. 2-12" in E.R. 2-12" in B.R.

mp Room

YES

In Holds, &c.

Water Circulating Pump Direct Bilge Suctions, No. and size

1-350 m/m on each

Independent Power Pump Direct Suctions to the Engine and/or Boiler Room Bilges,

nd size

none conforming to Rules

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes

YES

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

YES

NO. Mud boxes below level of floor

all Sea Connections fitted direct on the skin of the ship

See notes

Are they fitted with Valves or Cocks

Valves

Are the Overboard Discharges above or below the deep water line

Below

Are the Blow Off Cocks fitted with a spigot and brass covering plate

See notes

How are they protected

Trunkways in all cases

Have they been tested as per Rule

Fried

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

YES

Is the Shaft Tunnel watertight

YES

Is it fitted with a watertight door

YES

worked from

SHELTER DECK

IN BOILERS, &c.-(Letter for record

Total Heating Surface of Boilers

3213 sq. metres (9 x 357) + 9 x 100 m<sup>2</sup> (8 m)

Which Boilers are fitted with Forced Draft

ALL

Which Boilers are fitted with Superheaters

ALL

Working Pressure

15.5 Kg/cm<sup>2</sup>

IS A REPORT ON MAIN BOILERS NOW FORWARDED?

YES

IS A DONKEY BOILER FITTED?

NO

If so, is a report now forwarded?

Can the donkey boiler be used for other than domestic purposes

YES

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 Piping Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

YES

State the principal additional spare gear supplied

Notes:- All discharge valves pass through an icebox one port and one starboard built into the ship's double hull. Each

discharge valve is mounted direct on the icebox. Ship side blow down valves are mounted direct on the inner

skin of the hull with a steel trunkway connecting both skins, the valves discharging through a concentrically

mounted inner copper tube

The foregoing is a correct description.

Manufacturer.



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

Dates of Examination of principal parts - Cylinders 6-6-47 Varium  
Pistons 6-6-47 Varium  
Crank shaft 20-5-47 + Var: Piston Rods 6-6-47 Varium  
Tube shaft Thrust shaft 20-5-47  
Stern tube Screw shaft 22-9-48  
Completion of fitting sea connections Engine and boiler seatings  
Completion of pumping arrangements 5-7-49 Tested  
Main boiler safety valves adjusted 14-7-49  
Crank shaft material Boilers fixed  
Intermediate shafts, material Identification Mark  
Screw shaft, material Identification Marks  
Is an installation fitted for burning oil fuel NO  
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 NO  
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with YES  
Is this machinery duplicate of a previous case If so, state name of vessel YES  
General Remarks (State quality of workmanship, opinions as to class, &c.)  
The machinery of this vessel as has examined is in good order, the workmanship is good and the machinery in our opinion is eligible to be included in the LMC.

Pump list:  
1 Ford 2 aft. Feed pumps 2-80 tons duplex type, one port, one starboard. 3-40 tons duplex type each 22 tons. Circulating pumps 3 off port, starboard and aft. New type dual 230 x 410 x 410 x 305 mm stroke. Bilge & Ballast 3 off port, starboard and aft. Duplex type 100 tons each. Auxiliary Condensate (oil) pumps 1 off Worthington 7 tons. Fresh water pumps 2 off Ford E.R. port & starboard, duplex type 100 tons. Main Trimming pumps (Ballast) Ford E.R. midships. Centrifugal 1500 tons. Sanitary & fire pumps Ford E.R. port 1-duplex type 110 tons. Fresh water pumps 2 Worthington, Ford E.R. midships 1-5 tons, aft E.R. port 1-duplex oil cooler pump. 1 Worthington starboard aft E.R. - 5 tons. Evaporator feed pumps 2 Worthington - 5 tons each. Distillate pumps 2 Worthington - 5 tons each.

The amount of Entry Fee

Special ... £

Donkey Boiler Fee ... £

Travelling Expenses (if any) ... £

Date

When applied for

When received

Committee's Minute

Engineer Surveyor to Lloyd's Register of Shipping

Tensile strength

Pitch of stays to ditto: Sides 20

Working pressure by Rules

Thickness 25 mm

Pitch of stays at wide water space

Working Pressure 15.8 kg

Diameter At body of stay, 75 mm

Over threads 84 mm

Working pressure by Rules 19

Diameter At turned off part, 40

Over threads