

REPORT ON OIL ENGINE MACHINERY.

No. 13902

Received at London Office

19 OCT 1953

Date of writing Report 10/10/53 When handed in at Local Office 10/10/53 Port of TRIESTE

Survey held at TRIESTE Date, First Survey 13th Feb. '53 Last Survey 1st Oct. 1953

Number of Visits 18

257 S on the ^{Single} ~~Book~~ Screw vessel "NAIKO" Tons Gross 511 Net 230

At TRIESTE By whom built Cantieri Riuniti dell'Adriatico Yard No. 1784 When built 1953-10

Machinery made at San Francisco By whom made General Metals Corp. Enterprise Division Engine No. 51063 When made 1952

Key Boilers made at - By whom made - Boiler No. - When made -

Net Horse Power 480 Owners Republic of Indonesia Port belonging to Djakarta

Power as per Rule 96 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

Vessel for which vessel is intended General cargo

ENGINES, &c. — Type of Engines D.M.G. 8 Vertical Marine 2 or 4 stroke cycle 4 Single or double acting single

Minimum pressure in cylinders 720 lbs/a" Diameter of cylinders 12" Length of stroke 15" No. of cylinders 8 No. of cranks 8

Indicated Pressure 89 lbs/a" Ahead Firing Order in Cylinders 1,4,7,3,8,5,2,6 Span of bearings, adjacent to the crank, measured inner edge to inner edge 11.5" Is there a bearing between each crank yes Revolutions per minute 350

Wheel dia 33" Weight 1409 lbs. Moment of inertia of flywheel (lbs. in² or Kg. cm.²) - Means of ignition Comp. Kind of fuel used Diesel

Material Solid forged dia. of journals as per Rule as appl. 8" Crank pin dia. 8" Crank webs Mid. length breadth 12.5" Thickness parallel to axis -

Wheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted 5.9" Thrust Shaft, diameter at collars as fitted 7"

Propeller Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted 5.9" Is the ^{tube} screw shaft fitted with a continuous liner no

Size 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 -

Does the liner do 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 - 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 tube shaft yes If so, state type as appl. (7.10.52) Length of bearing in Stern Bush next to and supporting propeller 650 mm.

Propeller, dia 1670 mm Pitch 1175 mm No. of blades 4 Material bronze whether moveable fixed Total developed surface 0.95 sq. mt.

Moment of inertia of propeller (lbs. in² or Kg. cm.²) 133 Kind of damper, if fitted -

Method of reversing Engines direct Is a governor fitted to prevent racing of the engine ~~yes~~ yes Means of ignition forced Thickness of cylinder liners .85" Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers lagged with non-conducting material yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned to the engine - Cooling Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Water Pumps worked from the Main Engines, No. 1 2" discharge rotary Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line (No. and size 1 at 35 T/Hr. 1 at 35 T/Hr. 1 at 35 T/Hr. 1 2" rotary How driven Elect. Mot. (emergency) Aux. Eng. Aux. Eng. Main Eng.

Is cooling water led to the bilges no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements -

Oil Pumps, No. and size 3 at 35 T/Hr. each Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 - 2" gear type

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size:—In machinery spaces 2 at 60mm / 2 at 50mm from dry tanks and 1 at 50mm C.D. in pump room -

Oil Pumps, No. and size N° 1 hold 2 at 60mm / N° 2 hold 2 at 60mm From C/D. - 1 at 60mm

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 at 80mm starbd. / 1 at 60mm port / 1 at 80mm emergency

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes yes Are the bilge suction in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes as practicable

Are all Sea Connections fitted direct on the skin of the Ship yes Are they fitted with valves or cocks valves Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes/as practicable Are the overboard discharges above or below the deep water line above

Are they each fitted with a discharge valve always accessible on the plating of the vessel yes Are the blow off cocks fitted with a spigot and brass covering plate -

Do all pipes pass through the bunkers none How are they protected -

Do all pipes pass through the deep tanks none 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 yes as practicable

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 yes Is the shaft tunnel watertight none Is it fitted with a watertight door - worked from -

Is the vessel a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -

Number of Air Compressors, No. - No. of stages - diameters - stroke - driven by -

Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 4 1/2" & 2 1/2" stroke - driven by Main Eng.

All Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 38 c.mts. capacity stroke - driven by Aux. Eng.

Is provision made for first charging the air receivers hand compressor

Number of Air Pumps, No. - diameter - stroke - driven by -

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. 2 Position Eng. room 1 port & 1 starbd.

Have the auxiliary engines been constructed under special survey yes Is a report sent herewith see Hamburg certifs. Nos. 3202 & 4022

JP 4/11/53

TE Propd

10355-010361-0297



AIR RECEIVERS:—Have they been made under survey yes State No. of report or certificate see S. Fo. Rpt.
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes
 Can the internal surfaces of the receivers be examined and cleaned yes Is a drain fitted at the lowest part of each receiver yes
Injection Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness -
 Seamless, welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -
Starting Air Receivers, No. two Total cubic capacity 32 cubic ft. Internal diameter 22" thickness 5/16"
 Seamless, welded or riveted longitudinal joint butt welded Material M.S. Range of tensile strength 28.32 T/ " Working pressure -

IS A DONKEY BOILER FITTED no If so, is a report now forwarded -
 Is the donkey boiler intended to be used for domestic purposes only -

PLANS. Are approved plans forwarded herewith for shafting 23.12.48 N.Y. 7.10.52 Ind. S. Fo. Separate fuel tanks -
 (If not, state date of approval) 24.9.52 Donkey boilers - General pumping arrangements 24.9.52 Pumping arrangements in machinery space 24.9.52
 Oil fuel burning arrangements -
 Have Torsional Vibration characteristics been approved yes Date of approval 7.10.52

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES
 State the principal additional spare gear supplied One Screwshaft One bronze propeller and various small items

NOTE:- The main engine governor has been suitably adjusted, a notice board has been fitted at the control station stating that the engine speed should not rise above 370 R.P.M. and the tachometer marked accordingly.

CANTIERI RIUNITI DELL'ADRIATICO

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops - - X See San Francisco Report 4b.
 During erection on board vessel - - 1953:-Feb. 13. May 23. June 16. July 10, 14, 21, 24, 25, 26. Aug. 25, 29. Sep. 7, 9, 15, 28, 29. Oct. 1.
 Total No. of visits Eighteen

Dates of examination of principal parts—Cylinders X Covers X Pistons X Rods - Connecting rods X
 Crank shaft X Flywheel shaft ✓ Thrust shaft X Intermediate shafts 26.8.53 Tube shaft X
 Screw shaft 14.7.53 Propeller 16.2.53 Stern tube 14.7.53 Engine seatings 26.8.53 Engine holding down bolts 26.8.
 Completion of fitting sea connections 10.7.53 Completion of pumping arrangements 29.9.53 Engines tried under working conditions 29.9.
 Crank shaft, material X Identification mark X Flywheel shaft, material - Identification mark LLOYD
 Thrust shaft, material X Identification mark X Intermediate shafts, material E.F.S. Identification marks IL 51
 Tube shaft, material ✓ Identification mark ✓ Screw shaft, material E.F.S Identification mark LLOYD's IL 500
 Identification marks on air receivers N°. 6618 LLOYD's TEST 500 lbs. 23. NOV. 51 N°. 6576 LLOYD's TEST 500 lbs. 24. MAY. 51

Welded receivers, state Makers' Name See San Francisco Report 10
 Is the flash point of the oil to be used over 150°F yes
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with yes
 Description of fire extinguishing apparatus fitted CO2 system Portable extinguishers and fire hoses
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no If so, have the requirements of the Rules been complied with -
 If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with no
 Is this machinery duplicate of a previous case yes If so, state name of vessel Cantieri Riuniti dell'Adriati Yard N°s. 1781 - 1782 - 1783

General Remarks (State quality of workmanship, opinions as to class, &c. M/V's "NAIRA"-"NUKAHA"-"NU")
The main machinery of this vessel was constructed under the supervision of the San Francisco Surveyors and has now been efficiently installed on board the vessel in accordance with Rule requirements, the Secretary's letters and approved plans, together with the Auxiliary machinery constructed under the supervision of the Hamburg Surveyors.
The workmanship and materials are good.
On completion the installation was tried under full working conditions at sea and found satisfactory.
In my opinion the machinery is eligible for a classed vessel with records:

+ LMC - 10.53 Oil Engine - Screwshaft O.G.

21.10.53

The amount of Entry Fee ... £ 34 .. 6 .. 0
 Special ... £ : : :
 Donkey Boiler Fee... £ : : :
 Travelling Expenses (if any) £ 3 .. 0 .. 0
 Car fund £ 1 .. 14 .. 0
 TUESDAY 24 NOV 1953

A/O rendered from London... 12.10.53

J. J. Wilson
 Engineer Surveyor to Lloyd's Register of Shipping
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Assigned + LMC 10.53 Oil Eng. (Torsional Endorsement.)
OG.