

Report on Steam Turbine Machinery.

28 OCT 1969

No. 26224.

4a.

Received at London Office
 Date of writing Report 18/10 19 60 When handed in at Local Office 26/10 19 60 Port of Gothenburg
 in Survey held at Uddavalla Date, First Survey 30/9, 1959 Last Survey 30/9 19 60
 7. Book (Number of Visits 84)
 247 on the s/s GEORGE L. PARKHURST Tons (Gross 39.966 Net 27.486)
 at Uddavalla By whom built Sörviksvarvet AB Yard No. 202 When built 1960
 engines made at Trenton, New Jersey By whom made De Laval Steam Turb. Co. Engine No. 652030 When made 1959
 lers made at Barberton, Ohio By whom made Babcock & Wilcox Co. Boiler No. 852-853 When made 1960
 s (p&s) = 22,000 Horse Power at Full Power Owners California Shipping Corporation Port belonging to Monrovia
 m. Horse Power as per Rule 4,400 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 de for which Vessel is intended General

4M TURBINE ENGINES, &c.—Description of Engines Cross compound double Reduction geared turbines

Ahead 2 Direct coupled, single reduction geared to one propelling shafts. No. of primary pinions to each set of reduction gearing 2
 Turbines Astern 1 double reduction geared
 coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;
 supplying power for driving Propelling Motors Type
 Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to 1 propelling shaft

BINE	H. P.	I. P.	L. P.	ASTERN.
ING.				
No. of rows	11		8	3
No. of stages				
No. of rows in each stage				

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. 1st reduction wheel main shaft

Shaft diameter at journals H.P. I.P. L.P. Pitch Circle Diameter 1st pinion 1st reduction wheel main wheel 2nd pinion main wheel Width of Face 1st reduction wheel main wheel

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 1st reduction wheel 2nd pinion main wheel

Pinion diameter 1st 2nd Pinion Shafts, diameter at bearings External Internal 1st 2nd diameter at bottom of pinion teeth 1st 2nd

Shafts, diameter at bearings 1st main diameter at wheel shroud 1st Generator Shaft, diameter at bearings main Propelling Motor Shaft, diameter at bearings

Liate Shafts, diameter as per rule 575 m/m as fitted Thrust Shaft, diameter at collars as per rule 24" as fitted

Shaft, diameter as per rule 678 m/m and 605 m/m at Is the (tube) screw shaft fitted with a continuous liner Yes

Liners, thickness in way of bushes as per rule 32.5 m/m Thickness between bushes as fitted 31.5 m/m Is the after end of the liner made watertight in the boss Yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner one length 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 Fits tightly

Are the liners fitted, is the shaft lapped or protected between the liners. Is an approved Oil Gland or other appliance fitted at the after end of the tube If so, state type Length of Bearing in Stern Bush next to and supporting propeller 2620 m/m

diameter 7300 m/m Pitch 5080 m/m No. of Blades 5 State whether Moveable No Total Developed Surface 28.62 m² square feet

Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes Can the H.P. or I.P. Turbines exhaust direct to the Yes

No. of Turbines fitted with astern wheels 1/I.P. Feed Pumps No. and size 3 x 500 G.P.M. How driven Turbine driver

ected to the Main Bilge Line No. and size 2 x 600 G.P.M. 1 x 270 G.P.M. How driven El. driver Steam (Bilge & ballast p.)

pumps, No. and size 1 x 270 G.P.M. Lubricating Oil Pumps, including Spare Pump, No. and size 2 x 500 GPM

dependent means arranged for circulating water through the Oil Cooler Yes Suctions, connected both to Main Bilge Pumps and Auxiliary

os, No. and size:—In Engine and Boiler Room ER: 4x4" 2x2" 1x2" C/D 38-39 1x2" BR, 1x4" 2x2" 1x2" from Boiler platform In Pump Room Hand

e. Main pump room: 5x2 1/2" Fwd. pump room: 1x2 1/2" B/D 1x2 1/2" Dry cargo hold: 2x2 1/2" FP tank top 2x2" Chain locker 2x2" pump aft.

er Circulating Pump Direct Bilge Suctions, No. and size 1 x 20" Independent Power Pump Direct Suctions to the Engine Room

nd size 1 x 6" 1 x 5" BR: 1 x 6" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes. Yes

e 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

Connections fitted direct on the skin of the ship. Yes Are they fitted with Valves or Cocks. Valves

d sufficiently high on the ship's side to be seen without lifting the stokehold plates. Boilers on a platform Are the Overboard Discharges above or below the deep water

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 No, only doubling plate

What pipes pass through the bunkers. No coal bunkers How are they protected. Heating coils only Have they been tested as per rule. Yes

pass through the deep tanks. Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times. Yes

ngement 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 from one compartment to another. Yes Is the Shaft Tunnel watertight ER aft. Is it fitted with a watertight door. worked from.

, &c.—(Letter for record. WTB) Total Heating Surface of Boilers 23430 sq. feet

Draft fitted. Yes No. and Description of Boilers 2 Babcock & Wilcox WT boilers Working Pressure 705 PSI

t on Main Boilers now forwarded? Yes

011671-011677-0093 1/2

Lloyd's Register Foundation

Machinery of the s/t "George L. Parkhurst", 39,966 tons gross, of Monrovia.

Certificates covering intermediate- & propeller shafts and propellers are also attached.

The machinery has been examined under full load conditions on a trial trip and found to work satisfactorily.

At the docking at Kiel between 6/9 and 10/9 1960 the Tail Shaft was drawn, Tail Shaft, propeller and stern bush examined and found satisfactory. (Clearance = 2.86 - 3.26 mm).

Note I:-

Both bilge and fire pumps are not selfpriming and the Owners representative did not like to put in any kind of primary arrangement. As the ship is intended to hold the ABS class and not be retained in LR class after the 1st period, a subject has been added to the recommendation regarding self priming pumps, if the class would be changed to LR some time in the future.

Note II:-

The HP 1st red. pinion extension shaft hub and coupling sleeve has been replaced by a new. ABS cert. attached.

Note III:-

Part of this survey has been, at the Builders' request carried out by the undersigned as follows:-

On Monday the 25th January, 1960, between 19⁰⁰ - 21⁰⁰.
 " Tuesday " 26th " 1960, " 19⁰⁰ - 20⁰⁰.
 " Monday " 15th August, 1960, " 19³⁰ - 20³⁰.
 " Tuesday " 16th " 1960, " 16⁰⁰ - 20⁰⁰.
 " Friday " 26th " 1960, " 20³⁰ - 21³⁰.
 " Sunday " 14th September, 1960, " 18⁰⁰ - 20³⁰.
 " " " 11th " 1960, " 11⁰⁰ - 11³⁰.
 " Tuesday " 27th " 1960, " 19⁰⁰ - 20³⁰.
 " Saturday " 1st October, 1960, " 15⁰⁰ - 22⁰⁰.

Is a Donkey Boiler fitted? No
 (an Auxiliary) 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. App. 9/6-59 Main Boilers NYK 25/3-60 Auxiliary Boilers. Donkey Boilers.
 (If not, state date of approval)
 Superheaters NYK 25.3.60. General Pumping Arrangements App. 7/3-60, 14/12-59 & 25/5-59 Oil Fuel Burning Arrangements App. 3.3.60.
 Geared turbines Have torsional vibration characteristics of system been approved. Yes Date of approval 13.2.59.
 situated aft.

SPARE GEAR.

Has the spare gear required by the Rules been supplied. Yes
 State the principal additional spare gear supplied. Spare part list attached.

The foregoing is a correct description.

UDDEVALLAVARVET
 AKTIEBOLAG

Dates of Survey while building During progress of work in shops - - 30.9.59. - 3.9.60.
 During erection on board vessel - - 84
 Total No. of visits. 84
 Dates of Examination of principal parts - Casings - - Rotors - - Blading - - Gearing - -
 Wheel shaft - - Thrust shaft - - Intermediate shafts 17.11.59. Tube shaft - - Screw shaft 3.12.59.
 Propeller 5.12.59. Stern tube 17.7.59. Engine and boiler seatings 11/1-60 & 3/10-59. Engine holding down bolts 4-27/4-60.
 Completion of fitting sea connections 7/9 -60. Completion of pumping arrangements 15/9 -60 Boilers fired 22/3-60 Engines tried under steam 3/9
 Main boiler safety valves adjusted 16.17/8 -60 Thickness of adjusting washers Locking nuts
 Rotor shaft, Material and tensile strength Identification Mark
 Flexible Pinion Shaft, Material and tensile strength Identification Mark
 Pinion shaft, Material and tensile strength Identification Mark
 ; Chemical analysis
 If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment
 1st Reduction Wheel Shaft, Material and tensile strength Identification Mark
 Wheel shaft, Material Identification Mark
 Intermediate shafts, Material Identification Mark
 Screw shaft, Material S.M. Steel Identification Mark
 Date of test 29/6 - 4/7 1960. Is an installation fitted for burning oil fuel Yes
 Is the flash point of the oil to be used over 150°F Yes 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
 If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with No.
 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, etc.)

Note:- Fire extinguishing arrangements in ER:- 6x10 lb. dry chemical & 1-15 lb. CO₂ extinguisher. Boiler room dry chemical & 1-10 gallons foam extinguisher. In ER, BR and main pumproom total flooding from a Kiddes CO₂ bat Diesel room 2x15 lbs. CO₂ extinguishers.

The machinery of this vessel has been built under survey as per Philadelphia report No. 11157 attached
 ly fitted on board under my inspection and to my satisfaction.
 The bedding of the main reduction rearing examined after full speed trials and found in order. No gear or rough running was observed at any speed.
 The overspeed tripping, low oil pressure tripping and the automatic steam shut off arrangement tested satisfactory.
 All high pressure steam pipes have been X-rayed in way of welding.
 Steam generators, heaters, coolers, evaporators and pumps intended for essential service have been by

Special Survey. Certificates attached.

The amount of Entry Fee (dur. inst) Kr. 3910:- When applied for.
 Spec. attendance fees: Kr. 690:- 26/10 1960

Donkey Boiler Fee ... 2 ... : When received.
 Travelling Expenses (if any) Kr. 397:- 19
 Do (Kiel 9%) 125:- PER GOTH. KTR. 29.10.60

Committee's Minute

Assigned

Engineer Surveyor to Lloyd's Register of Shipping