

# Report on Steam Turbine Machinery. No. 21

Received at London Office 28 JUN 1948

Report made on 24 June 1948 When handed in at Local Office 19 Port of Nantes  
 Survey held at Saint Nazaire Date, First Survey 16 July 1947 Last Survey 19  
 (Number of Visits )

the steel single screw steamer "Saint Bertrand" ex Chemnitz Tons {Gross 5822  
 Net 3310  
 By whom built Vegesack Bremer Vulkan Yard No. / When built 1929  
 By whom made Vegesack Bremer Vulkan Engine No. / When made 1929  
 By whom made Vegesack Bremer Vulkan Boiler No. / When made 1929  
 Power at Full Power 4200 IHP Owners French Government Port belonging to Le Havre  
 Power as per Rule 646 MN Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 which Vessel is intended 1 3 cylinder Reciprocating Steam Engine (3300 IHP) and 1 L.P. Turbine (900 IHP)

## TURBINE ENGINES, &c.—Description of Engines.

Ahead One Direct coupled, single reduction geared to 1 propelling shafts. No. of primary pinions to each set of reduction gearing One  
 Astern None double reduction geared  
 Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;  
 Direct Current Generator  
 power for driving Propelling Motors, Type  
 Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

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.
						102 7/8	540 7/8				
						142 7/8	570 7/8				
						170 7/8	600 7/8				

Power at each turbine {H.P. / I.P. / L.P. 900 I.H.P.} Revolutions per minute, at full power, of each Turbine Shaft {H.P. / I.P. / L.P.} 1st reduction wheel / main shaft  
 diameter at journals {H.P. / I.P. / L.P. 140 7/8} Pitch Circle Diameter {1st pinion 320 7/8 / 2nd pinion 320 7/8} 1st reduction wheel 942 7/8 main wheel 2 513 Width of Face {1st reduction wheel 120 7/8 / main wheel 400 7/8}

between centres of pinion and wheel faces and the centre of the adjacent bearings {1st pinion 572 7/8 / 2nd pinion 572 7/8} 1st reduction wheel 1 467 main wheel 1 373  
 Pinion Shafts, diameter at bearings External/Internal 1st/2nd diameter at bottom of pinion teeth  
 Generator Shaft, diameter at bearings  
 Propelling Motor Shaft, diameter at bearings 15.5"

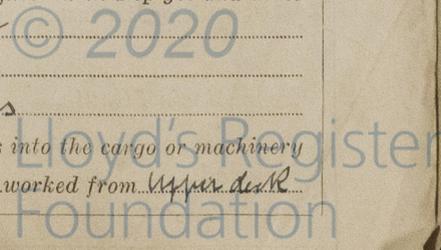
Shafts, diameter as per rule / as fitted 15.5" Thrust Shaft, diameter at collars as per rule / as fitted 16.2"  
 diameter as per rule / as fitted 15.5" Screw Shaft, diameter as per rule / as fitted 17.2"  
 Is the {tube / screw} shaft fitted with a continuous liner {Yes}

s, thickness in way of bushes as per rule / as fitted 0.85" Thickness between bushes as per rule / as fitted 0.75" Is the after end of the liner made watertight in the  
 Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner  
 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  
 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 the tube  
 If so, state type Length of Bearing in Stern Bush next to and supporting propeller

ometers 18.37' Pitch 18'0" No. of Blades 4 State whether Moveable Total Developed Surface 102.1 square feet.  
 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  
 No. of Turbines fitted with astern wheels None Feed Pumps {No. and size 2 diam 3.93" x 27.5" - 1. 11.8" x 8.66" x 23.6"  
 How driven Recip. Steam Engine (Main) independent Steam Engine

ted to the Main Bilge Line {No. and size 2 diam 4.55" x 26.5" and one 11.1" x 6.3" x 26.6"  
 How driven by main steam engine independent steam engine  
 ps, No. and size One 11.1" x 14.1" x 26.6" Lubricating Oil Pumps, including Spare Pump, No. and size None  
 dependent means arranged for circulating water through the Oil Cooler Suctions, connected both to Main Bilge Pumps and Auxiliary  
 No. and size:—In Engine and Boiler Room 2 of 4" diam (ER) 20903 (BR) 10603 (L) In Pump Room

Circulating Pump Direct Bilge Suctions, No. and size 1 of 8.7" diam Independent Power Pump Direct Suctions to the Engine Room  
 diam 2 of 4" diam Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes  
 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 Yes  
 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  
 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  
 Yes What pipes pass through the bunkers None How are they protected  
 pass through the deep tanks bilge suction pipes Have they been tested as per rule Yes  
 Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 ment 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  
 one compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Main Deck



**BOILERS, &c.**—(Letter for record.....) Total Heating Surface of Boilers 9074.052 sq. feet  
 Is Forced Draft fitted Yes No. and Description of Boilers 3 superheated cylindrical return flame Working Pressure.....  
 Is a Report on Main Boilers now forwarded? Yes  
 Is a Donkey Boiler fitted? No If so, is a report now forwarded? /  
an Auxiliary  
 Is the donkey boiler intended to be used for domestic purposes only.....  
 Plans. Are approved plans forwarded herewith for Shafting..... Main Boilers..... Auxiliary Boilers..... Donkey Boilers.....  
 Superheaters..... All plans destroyed by the crew when the vessel was captured. (If not, state date of approval) General Pumping Arrangements..... Oil Fuel Burning Arrangements.....

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied? Yes  
 State the principal additional spare gear supplied.....

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops - - } Turbine opened and examined - Reduction gear sent to shop and pinion  
 { During erection on board vessel - - }  
 Total No. of visits None (for turbine only).

Dates of Examination of principal parts—Casings 16/7/47 Rotors 11/5/48 Blading 16/7/47 Gearing.....  
 Wheel shaft 16/7/47 Thrust shaft 25/8/47 Intermediate shafts 23/1/48 Tube shaft 23/1/48 Screw shaft.....  
 Propeller 23/1/48 Stern tube 23/1/48 Engine and boiler seatings 25/8/47 Engine holding down bolts.....  
 Completion of fitting sea connections 28/1/48 Completion of pumping arrangements 4/5/48 Boilers fixed..... Engines tried under.....

Main boiler safety valves adjusted..... Thickness of adjusting washers.....  
 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.....  
 1st Reduction Wheel Shaft, Material and tensile strength..... Identification Mark.....  
 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 Well Test pressure.....  
 Date of test November 1947 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 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.....  
 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 L.P. Turbine of this vessel is the machinery described by reports 4 and 5a, in good and efficient condition and eligible, in my opinion, to be classed LMC 6.48 and T.S. 6.48.

Certificate (if required) to be sent to.....  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee	£	:	:	When applied for.
Special	£	:	:	19
Donkey Boiler Fee	£	:	:	When received.
Travelling Expenses (if any)	£	:	:	19

FRI. 5 NOV 1946

*[Signature]*  
 Engineer Surveyor to Lloyd's Register of Shipping  
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