

Report on Steam Turbine Machinery.

No. 4492 ^{21 DEC 1953}

Received at London Office
 Date of writing Report 18, Nov. 1953 When handed in at Local Office 19 Port of Boston, Massachusetts
 No. in Survey held at Lynn, Massachusetts Date, First Survey 17, July Last Survey 20, October 1953
 Reg. Book _____ (Number of Visits 8)
 on the "MAKE NOSTRUM" Tons (Gross _____ Net _____)
 Built at Monfalcone, Italy By whom built Cantieri Riuniti Dell'Adriatico Yard No. 1777 When built 1953
 Engines made at Lynn, Mass. By whom made General Electric Co. Engine No. 97894 When made _____
 Boilers made at _____ By whom made _____ Gear Boiler No 104,801 When made _____
 Shaft Horse Power at Full Power 16,000 Owners Fratelli d'Amico Armatori Port belonging to _____
 Nom. Horse Power as per Rule _____ Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted Yes
 Trade for which Vessel is intended _____

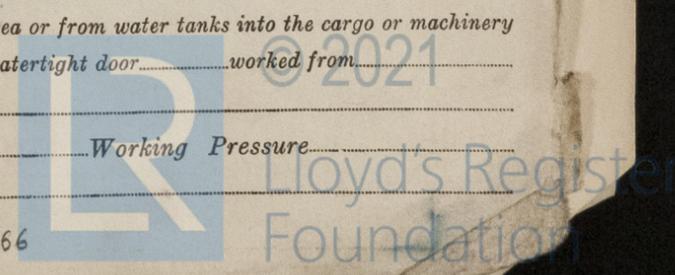
STEAM TURBINE ENGINES, &c.—Description of Engines Cross Compound Double Reduction
 No. of Turbines Two ~~direct coupled~~ single reduction geared to one propelling shafts. No. of primary pinions to each set of reduction gearing two
 direct coupled to Alternating Current Generator phase _____ periods per second _____ Direct Current Generator rated _____ Kilowatts _____ Volts at _____ revolutions per minute;
 for supplying power for driving _____ Propelling Motors, Type _____
 rated _____ Kilowatts _____ Volts at _____ revolutions per minute. Direct coupled, single or double reduction geared to _____ propelling shafts.

TURBINE BLADING.	H. P.	I. P.	L. P.	ASTERN.
Impulse Blading { No. of rows	8	None	8	3
Reaction Blading { No. of stages	8	None	8	2
Reaction Blading { No. of rows in each stage				

Shaft Horse Power at each turbine (Referred to prop. shaft) H.P. 8000 L.P. 8000 Revolutions per minute, at full power, of each Turbine Shaft H.P. 10,000 L.P. 3393
 Rotor Shaft diameter at journals H.P. Turb. 6-1/2" L.P. Turb. 6-1/2" 1st pinion 14.7266" 1st reduction wheel 150.33" H.P. 89.80" L.P. 65.473" Width of Face { 1st reduction wheel 19" plus 2 1/2" betw. helix main wheel 44" plus 4" betw. helix
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 21.667" main wheel 150.33" H.P. 15-1/2" L.P. 15-1/2" 1st reduction wheel H.P. 15-1/2" L.P. 15-1/2" 2nd pinion 31" main wheel 35" H.P. 9.542" L.P. 14.269"
 Flexible Pinion Shafts, diameter { 1st None External H.P. 5" L.P. 6" 2nd { 13.0" diameter at bottom of pinion teeth H.P. 9.542" L.P. 14.269"
 Wheel Shafts, diameter at bearings { 1st 9" diameter at wheel shroud, L.P. 10 3/8" Generator Shaft, diameter at bearings _____
 Intermediate Shafts, diameter { as per rule _____ (at hub fit) 26.788" Propelling Motor Shaft, diameter at bearings _____
 Tube Shaft, diameter _____ as fitted _____ Screw Shaft, diameter _____ as fitted _____ Is the { tube } shaft fitted with a continuous liner { screw }
 Bronze Liners, thickness in way of bushes _____ as fitted _____ Thickness between bushes _____ 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 _____
 If 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 _____
 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 the tube shaft _____ If so, state type _____ Length of Bearing in Stern Bush next to and supporting propeller _____
 Propeller, diameter _____ Pitch _____ No. of Blades _____ State whether Moveable _____ Total Developed Surface _____ square feet.
 If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes Can the H.P. or L.P. Turbines exhaust direct to the Condenser Yes No. of Turbines fitted with astern wheels One Feed Pumps { No. and size _____ How driven _____ (L.P. Turbine)
 Pumps connected to the Main Bilge Line { No. and size _____ How driven _____ Lubricating Oil Pumps, including Spare Pump, No. and size _____
 Ballast Pumps, No. and size _____ Are two independent means arranged for circulating water through the Oil Cooler _____ Suctions, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room _____ In Pump Room _____
 In Holds, &c. _____ Main Water Circulating Pump Direct Bilge Suctions, No. and size _____ Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size _____ Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes _____
 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 _____
 Are all Sea Connections fitted direct on the skin of the ship _____ Are they fitted with Valves or Cocks _____
 Are 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 _____ Are 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 _____ What pipes pass through the bunkers _____ How are they protected _____
 What pipes pass through the deep tanks _____ 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 _____
 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 _____ Is the Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.—(Letter for record _____) Total Heating Surface of Boilers _____
 Is Forced Draft fitted _____ No. and Description of Boilers _____ Working Pressure _____
 Is a Report on Main Boilers now forwarded? _____

NOTE.—The words which do not apply should be deleted. If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?



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Is a Donkey Boiler fitted? 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 Main Boilers Auxiliary Boilers Donkey Boilers
Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements
Geared turbines situated aft. Have torsional vibration characteristics of system been approved. Date of approval.

SPARE GEAR.

Has the spare gear required by the Rules been supplied?
State the principal additional spare gear supplied. Standard list as specified by the American Bureau of Shipping

The foregoing is a correct description.

Jf Heavne Turbine Engineer
General Electric Co. Man

Dates of Survey while building During progress of work in shops - - July 17 & 18, Aug. 6, 8, 12 & 14, Oct. 17 & 20, 1953
During erection on board vessel - -
Total No. of visits 8

Dates of Examination of principal parts - Casings July 18, Aug. 14, July 18, Aug. 14, July 18, Aug. 14, Aug. 14, July 18
Rotor Oct. 20 Rotors Oct. 20 Blading Oct. 20 Gearing Aug. 6
Wheel shaft Aug. 8 Thrust shaft Intermediate shafts Tube shaft Screw shaft
Propeller Stern tube Engine and boiler seatings Engine holding down bolts
Completion of fitting sea connections Completion of pumping arrangements Boilers fixed Engines tried under steam
Main boiler safety valves adjusted Thickness of adjusting washers

Rotor Material and tensile strength O.H. Steel - L.P. 104,800 H.P. 125,000 PSI Identification Mark
H.S. Pinion Shaft Material and tensile strength O.H. Steel H.S. H.P. 146,750 Identification Mark
L.S. Pinion shaft Material and tensile strength O.H. Steel L.S. H.P. 158,500 Identification Mark
L.S. Pinion shaft Material and tensile strength O.H. Steel L.S. L.P. 152,000 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 O.H. Steel H.P. 106,250 Identification Mark
Wheel shaft, Material O. H. Steel Identification Mark Thrust shaft, Material O. H. Steel 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
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.) This machinery has been completed under
Special Survey in accordance with approved plans. The forgings and castings were tested by
A. B. S. Surveyors and for particulars, please refer to attached report. The workmanship
and materials are good. The turbines and gears have been tried out separately in the shop
under no load conditions and found satisfactory. The units have been forwarded to Monfalcone,
Italy.

Certificate (if required) to be sent to Committee's Minute. (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 ... 1003 : 60 : 18, Nov. 19 53
Donkey Boiler Fee ... : : When received.
Travelling Expenses (if any) 20 : 00 :
NEW YORK DEC 2 1953
Assigned Transmit to London

H.P. Turbine No. 97894
W.S.H. LLOYD'S 8-12-53
Engineer Surveyor to Lloyd's Register of Shipping.
L.P. Turbine No. 97896
W.S.H. LLOYD'S 601 TB 20-10-53
Gear No. 104801
W.S.H. LLOYD'S 8-8-53
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