

26 OCT 1953

Report on Steam Turbine Machinery.

No. 2333

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Received at London Office
 Date of writing Report 22/10 1953 When handed in at Local Office 19 Port of Stockholm
 No. in Survey held at Stockholm Date, First Survey 2.10.1952 Last Survey 7.9. 1953
 Reg. Book 0153 on the Steam Tanker "SAXONSKY" Tons {Gross 13000
 {Net -
 Built at Malmö By whom built Kockums Mek. Verkstads AB Yard No. 360 When built 1953
 Engines made at Stockholm By whom made AB de Laval's Ångturbin Engine No. 40734 When made 1953
 Boilers made at - By whom made - Generator No. 455503 Boiler No. - When made -
 Shaft Horse Power at Full Power 630 Owners North American Shipping & Trading Co. Port belonging to -
 (London Ltd.)
 Nom. Horse Power as per Rule 126 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. Impulse turbine driving electric generator.

No. of Turbines 1 Direct coupled, single reduction geared to - propelling shafts. No. of primary pinions to each set of reduction gearing 1
double reduction geared
 Direct coupled to Alternating Current Generator 3 phase 50 periods per second 375 kVA 400 Volts at 1500 revolutions per minute;
 Direct Current Generator rated 375 Kilowatts
 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	H. P.	I. P.	L. P.	ASTERN.
LADING.				
Impulse				
ding				
No. of rows	<u>6</u>	<u>-</u>	<u>-</u>	<u>-</u>
No. of stages	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
No. of rows in each stage	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

Shaft Horse Power at each turbine H.P. 630 I.P. - L.P. - Revolutions per minute, at full power, of each Turbine Shaft H.P. 9034 I.P. - L.P. -
 1st reduction wheel -
 main shaft 1500

Propeller Shaft diameter at journals H.P. 80 and 65 mm I.P. - L.P. - Pitch Circle Diameter 1st pinion 103.036 mm 1st reduction wheel - 2nd pinion - main wheel 620.558 mm Width of Face 1st reduction wheel - main wheel 200 mm

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 155 mm 1st reduction wheel - 2nd pinion - main wheel 155 mm

Pinion Shafts, diameter at bearings External 1st 80 mm Internal 1st 40 mm 2nd - diameter at bottom of pinion teeth 1st 98.368 mm 2nd -

Wheel Shafts, diameter at bearings 1st - diameter at wheel shroud, 1st - main 100 mm Generator Shaft, diameter at bearings 110 mm Propelling Motor Shaft, diameter at bearings -

Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted

Propeller Shaft, diameter as per rule as fitted Screw Shaft, diameter as per rule as fitted Is the {tube} shaft fitted with a continuous liner { }
 {screw}

Brass 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.

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.

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

condenser. No. of Turbines fitted with astern wheels. Feed Pumps {No. and size.} {How driven.}

Pumps connected to the Main Bilge Line {No. and size.} {How driven.}

Ballast Pumps, No. and size. Lubricating Oil Pumps, including Spare Pump, No. and size. {direct driven 135 l/m} {steam driven for starting purposes}

Are two independent means arranged for circulating water through the Oil Cooler. Suctions, connected both to Main Bilge Pumps and Auxiliary

Engine Pumps, No. and size:—In Engine and Boiler Room. In Pump Room.

Holds, &c. Independent Power Pump Direct Suctions to the Engine Room

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

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

ring plate. What pipes pass through the bunkers. How are they protected.

Do all 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. Working Pressure.

Is forced Draft fitted. No. and Description of Boilers.

Report on Main Boilers now forwarded?

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Is ☒ a Donkey ☐ an Auxiliary 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 3.10.52 Main Boilers ☐ Auxiliary Boilers ☐ Donkey Boilers ☐
(If not, state date of approval)
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? ☒ Yes
State the principal additional spare gear supplied. ☐

The foregoing is a correct description.

AB DE LAVALS ANGTURBIN

Manufacture supplied

Dates of Survey while building
During progress of work in shops - - 2nd October, 1952 to 7th September, 1953.
During erection on board vessel - - -
Total No. of visits 8 in shop
Dates of Examination of principal parts—Casings 17.4.53 Rotors 2.10.52 Blading 2.10.52 Gearing 13.4.53
Wheel shaft 2.1.53 Thrust shaft - Intermediate shafts - Tube shaft - Screw shaft 4.6.53
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 27.8.53
Main boiler safety valves adjusted - Thickness of adjusting washers -
Rotor shaft, Material and tensile strength S.M.Steel 67.2 kg/mm² Identification Mark LLOYDS NO. 867
Flexible Pinion Shaft, Material and tensile strength - Identification Mark WAC 25.3.53
Pinion shaft, Material and tensile strength Electro steel 85.3 kg/mm² Identification Mark LLOYDS NO. 155
Identification Mark WAC 13.4.53
; Chemical analysis C=0.30-0.35, Cr=3.5-3.0, Mo=0.5, S=0.035 max., P=0.035 max.

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment 2nd October, 1952.
1st Reduction Wheel Shaft, Material and tensile strength S.M.Steel 2 LLOYDS NO. 5564 Identification Mark -
Wheel shaft, Material 66.7 kg/mm² Identification Mark 2.1.53 WAC Thrust shaft, Material - 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 Yes If so, state name of vessel "SAXONSEA", Kockums' Yard No. 359.

General Remarks. (State quality of workmanship, opinions as to class, &c.) This generator set has been constructed under Special Survey, of tested and approved materials and in accordance with the approved plans, Secretary's Letters and the requirements of the Rules.

The materials and workmanship are good and the machinery coupled to its electric generator No. 453503 was tested at the Engine Builders' Works under full and overload conditions, and found satisfactory. Test certificates for materials are attached to this report. The overspeed governor, hand tripping and automatic steam shut off arrangements operated satisfactorily when tested under working conditions.
On completion of the test bed trial the bedding of the gears and the electric welding of the main gear wheel fabricator body was examined and found satisfactory.
This machinery is in my opinion suitable for installation in the vessel for which it is intended.

The amount of Entry Fee ... £ : When applied for
Special ... £Kr. 350:- : 22/10 1953
Donkey Boiler Fee ... £ : When received
Travelling Expenses (if any) £Kr. 16:50 : 19

FRIDAY 15 JAN 1954

Committee's Minute

Assigned

See Ref. 4a

Engineer Surveyor to Lloyd's Register of Shipping.



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