

Report on Steam Turbine Machinery. No. 11,927

Rpt. 4a.

Date of writing Report 2nd Nov 55 When handed in at Local Office 10th Nov 1955 Port of Havre Received at London Office 16 NOV 1955
 No. in Survey held at Belfort and La Ciotat Date, First Survey 2nd April 1954 Last Survey 1st April (La Ciotat) 1955
 Reg. Book Belfort with 13th Aug 54 (Number of Visits thirteen)

14087 on the Single Screw Vessel "IPHIGENIA" Tons (Gross 1233 Net 727)
 Built at La Ciotat By whom built Chantiers navals de la Ciotat Yard No. 175 When built 1955
 Engines made at La Ciotat By whom made Forges et Chantiers de la Mediter. Engine No. 74 When made 1955
 Boilers made at La Ciotat By whom made Soc. Babcock & Wilcox (France) Boiler No. 10718/1/2 When made 1955
 Shaft Horse Power { Maximum 8250 Service 1650 MW Owners Societe Shell d'Indochine Port belonging to HAVRE
 M.N. as per Rule 1650 MW Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended Carrying Petroleum in Bulk

STEAM TURBINE ENGINES, &c.—Description of Engines

Two sets of Turbo Alternators of 550 Kw each:
 No. of Turbines One Direct coupled, single reduction geared to propelling shafts No. of primary pinions to each set of reduction gearing One
~~Direct~~ coupled to { Alternating Current Generator 3 phase 60 periods per second } rated 550 Kilowatts 450 Volts at 1800 revolutions per minute;
 Direct Current Generator }
 for supplying power for driving Propelling Motors, Type Propelling shafts
 rated 550 Kilowatts 450 Volts at 1800 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 <u>7</u> No. of stages <u>1</u>				
Reaction Blading { No. of rows in each stage <u>1</u>				

Shaft Horse Power at each turbine { H.P. 750 I.P. 1000 L.P. 1000 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 18000 I.P. 1800 L.P. 1800 }
 1st reduction wheel 1800 main shaft 1800

Rotor Shaft diameter at journals { H.P. 60 mm I.P. 65 mm L.P. 65 mm } Pitch Circle Diameter { 1st pinion 104.2016 mm 2nd pinion 165 mm }
 Width of Face { 1st reduction wheel 165 mm main wheel 165 mm }
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 165 mm 2nd pinion 165 mm }

Flexible Pinion Shafts, diameter at bearings { 1st 75 mm 2nd 75 mm } External Internal { 1st 75 mm 2nd 75 mm } diameter at bottom of pinion teeth { 1st 75 mm 2nd 75 mm }

Wheel Shafts, diameter at bearings { 1st 140 mm main 140 mm } diameter at wheel shroud, { 1st 140 mm main 140 mm } Generator Shaft, diameter at bearings 100 mm Propelling Motor Shaft, diameter at bearings 100 mm

Intermediate Shafts, diameter as per rule 140 mm as fitted 140 mm Thrust Shaft, diameter at collars as per rule 140 mm as fitted 140 mm

Tube Shaft, diameter as per rule 140 mm as fitted 140 mm Screw Shaft, diameter as per rule 140 mm as fitted 140 mm Is the { tube screw } shaft fitted with a continuous liner { Yes }

Bronze Liners, thickness in way of bushes as per rule 140 mm as fitted 140 mm Thickness between bushes as per rule 140 mm as fitted 140 mm Is the after end of the liner made watertight in the propeller boss Yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes
 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 Yes
 If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes Length of Bearing in Stern Bush next to and supporting propeller 140 mm

Propeller, diameter 140 mm Pitch 140 mm No. of Blades 140 State whether Moveable Yes Total Developed Surface 140 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 I.P. Turbines exhaust direct to the Condenser Yes

No. of Turbines fitted with astern wheels 1 Feed Pumps { No. and size 1 How driven 1 }
 Pumps connected to the Main Bilge Line { No. and size 1 How driven 1 }

Ballast Pumps, No. and size 1 Lubricating Oil Pumps, including Spare Pump, No. and size 1 Branch Bilge Suctions, No. and size:—In Engine 1 In Pump Room 1

Are two independent means arranged for circulating water through the Oil Cooler Yes
 In Holds, &c. Yes Water Circulating Pumps 1 Direct Bilge Suctions, No. and size 1 Direct Bilge Suctions to the Engine and/or Boiler Room 1

Bilges, No. and size 1 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes
 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 Yes
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes

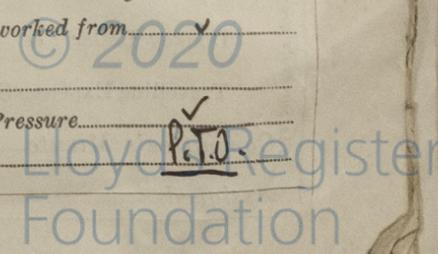
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges above or below the deep water line Yes Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes What pipes pass through the bunkers Yes How are they protected Yes

What pipes pass through the deep tanks Yes Have they been tested as per rule Yes
 Are all Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

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 Yes Is it fitted with a watertight door Yes worked from Yes

OILERS, &c.—Total Heating Surface of Boilers 140
 Is Forced Draught fitted Yes No. and Description of Boilers 1 Working Pressure 140

Is a Report on Main Boilers now forwarded? Yes



Is a Donkey Boiler fitted? 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
 (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?
 State the principal additional spare gear supplied (for one turbine)
 1 set steam gland packing, 1 set springs in place, 1 tachymeter, 1 governor (complete)
 1 oil filter, 10% condenser tubes & 1 set iron plates, 10% oil cooler tubes & 1 set iron plates,
 1 set ejector nozzles, 1 set of 6 gauges for steam and oil, 1 wheel and worm screw set
 for governor and oil pump drive, 1 set of two gauges for HP & LP lube oil system.
 5% of bolts in place for main bearings and Turbine chest.
 (for one generator) 1 set bushes holders (for one exciter) 1 set bushes holders & 1 armature complete,
 (for one amplifier) 1 set bushes holders & 1 amplifier complete.
 The foregoing is a correct description. for description see Manufacture letter 28-3-55
 letter provided herewith Manufacturer.

Dates of Survey while building
 During progress of work in shops - 21-4-54; 22-4-54; 11-8-54; 12-8-54 also VLN Surveys 10-3-54; 16-6-54; 5-7-54
 During erection on board vessel - 5-1-55; 27-1-55; 12-2-55; 23-2-55; 29-3-55; 7-4-55
 Total No. of visits thirteen

Dates of Examination of principal parts - Casings 21-4 & 13-8-54 Rotors 21-4 & 13-8-54 Blading 21-4 & 13-8-54 Gearing 10-3, 16-6, 5-7-54
 Wheel shaft 21-4 & 13-8-54 Thrust shaft Intermediate shafts Tube shaft Screw shaft 1954
 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 shaft, Material and tensile strength Steel 80.8 kps mfm 2 Identification Mark 1153-1 & 1153-2 RF
 Flexible Pinion shaft, Material and tensile strength Steel 96.5 kps mfm 2 Identification Mark 532 & 532 B HJM
complying Identification Mark 543 & 544 HJM
 Pinion shaft, Material and tensile strength Steel 121.0 & 119.0 kps mfm 2 Identification Mark 543 & 544 HJM

If Pinion Shafts are made of special steel state date of special chemical analyses, physical properties and heat treatment
 1st Reduction Wheel Shaft, Material and tensile strength Steel 51.0 HJM Identification Mark 98398 HJM
see Valerianus Lunn 25-6-54 & 5-7-54
 Wheel shaft, Material Steel Identification Mark 540 HJM 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
 Full description of Fire Extinguishing Apparatus fitted in machinery spaces
 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.)
 The two geared turbine sets were constructed under special survey in accordance with the Rules and approved plans & the Secretary's letters. The quality of the workmanship and the materials have been found good.
 After completion in shops each trip was tested, overspeed and emergency trip tests carried out and the turbines, bearings and gearings opened out, & have been examined and found satisfactory.
 After being erected on board each turbo alternator set was tested under full load and found satisfactory. In my opinion these two geared turbine alternator sets are suitable for a classed vessel.

Building at Belfast £ 2000 : When applied for 7-1-55
 The amount of building fee
 Special ... £
 Donkey Boiler Fee ... £
 Travelling Expenses (if any) £ 27.890 : When received 25-2-55
 FRIDAY 25 NOV 1955

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



Committee's Minute
 Assigned See Rpt. 4a