

Auxiliary Turbines built by Schneider, Le Creusot, France.

Machine No 238-9 Driving S W Alternators No 9816 & 9815 respectively

Report on Steam Turbine Machinery. No. LYO E.11

4a. of writing Report 25 July 1956 When handed in at Local Office 19 Port of LYON, France. Received at London Office

in Survey held at Le Creusot Date, First Survey 16/1/56 Last Survey 1/8/1956
Book (Number of Visits 14)

on the Single Screw Vessel Tons (Gross Net)
Twin
Triple
Quadruple

at St. Nazaire By whom built Chantiers de Penhoët Yard No. B.17 When built 1956

ines made at By whom made Engine No. When made

ers made at By whom made Boiler No. When made

ft Horse Power { Maximum 116 Owners Port belonging to
Service 23.2

as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted yes

No. of Vessels for which Vessel is intended carrying Petroleum in bulk

AM TURBINE ENGINES, &c.—Description of Engines 2 sets Westinghouse Type 650 KW each

of Turbines Ahead two Direct coupled, single reduction geared Alternator propelling shafts. No. of primary pinions to each set of reduction gearing
Astern double reduction geared

ct coupled to { Alternating Current Generator 5 phase 60 periods per second } rated 650 Kilowatts 450 Volts at 1,200 revolutions per minute;
Direct Current Generator

upplying power for driving Propelling Motors, Type

d Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE	H. P.	I. P.	L. P.	ASTERN.
Axial <u> </u> No. of rows <u>1. double 6. single</u> No. of stages <u> </u> No. of rows in each stage <u> </u>				

t Horse Power at each turbine { H.P. 850 I.P. L.P. } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 2,000 I.P. L.P. } 1st reduction wheel main shaft

r Shaft diameter at journals { H.P. 50-65 mm I.P. L.P. } Pitch Circle Diameter { 1st pinion 98.72 mm 2nd pinion } 1st reduction wheel main wheel 741.88 mm } Width of Face { 1st reduction wheel 116 mm x 2 main wheel 116 mm x 2

ance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 179.75 mm 2nd pinion } 1st reduction wheel main wheel

ible Pinion { 1st 2nd } Pinion Shafts, diameter at bearings { External 1st 69.65 mm 2nd } diameter at bottom of pinion teeth { 1st 103.72 mm 2nd

el Shafts, diameter at bearings { 1st 2nd } diameter at wheel shroud, { 1st 2nd } main 101.42 mm } Alternator Generator Shaft, diameter at bearings 124.8 mm Propelling Motor Shaft, diameter at bearings

mediate Shafts, diameter as per rule as fitted } Thrust Shaft, diameter at collars as per rule as fitted 112.7 mm

e 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 }

ze 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

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

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

o 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

If so, state type Length of Bearing in Stern Bush next to and supporting propeller

eller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.

ngle 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

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

cture No. and size Lubricating Oil Pumps, including Spare Pump, No. and size Main & Spare 5 Cu.M. per hour each.

wo independent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions, No. and size:—In Engine

eters, boiler Rooms In Pump Room

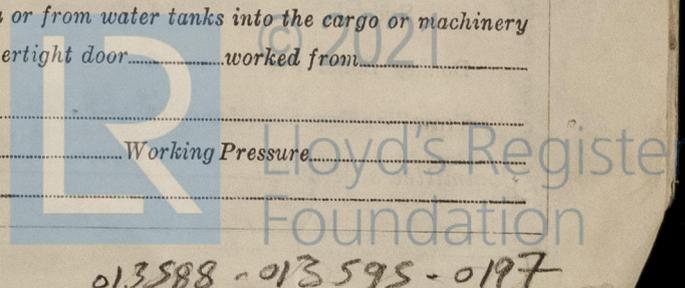
ssible Water Circulating Pump Direct Bilge Suctions, No. and size Direct Bilge Suctions to the Engine and/or Boiler Room

s, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

he 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

ll Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

hey 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



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4 A. E11.

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? 1/12/55

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. **Yes** Date of approval **16/12/55**

SPARE GEAR.

Has the spare gear required by the Rules been supplied. **As per Rule requirements.**
 State the principal additional spare gear supplied. **NIL**

The foregoing is a correct description and the particulars of the engines as supplied are as approved for torsional vibration characteristics. S^{TE} DES FORGES ET ATELIERS DU CREUSOT

Dates of Survey while building During progress of work in shops - - **16 Jan., 24 Feb., 19 Mar. 25 May, 4 June, 19-20-31 July 1956**
 During erection on board vessel - - -
 Total No. of visits.

Dates of Examination of principal parts—Casings **24-2-56** Rotors **4-6-56** Blading **4-6-56** Gearing **4-6-56**
 Wheel shaft **4-6-56** 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 shaft, Material and tensile strength **Ni.Cr.Mo.Steel N° 1 73.5 Kg/mm² N°2 75.3 Kg/mm²** Identification Mark **N°1 STE 920 N°2 STE 920**

Flexible Pinion Shaft, Material and tensile strength Identification Mark
 Pinion shaft, Material and tensile strength **Ni.Cr.Steel N° 1 82.8 Kg/mm² N°2 82.8 Kg/mm²** Identification Mark **N° 1 STE 920 N°2 STE 920/2 EP**

Chemical analysis **C. 0.3 Si .3 S .010. P.019 Mn .58 S1 1.59 Cr .60**
 If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment **8-10-56**

1st Reduction Wheel Shaft, Material and tensile strength Identification Mark
 Wheel shaft, Material **O.H. Steel** Identification Mark **STE.920.EE** 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.) **These two geared auxiliary steam turbine sets were constructed under special survey of tested materials in accordance with the Secretary's approved plans and requirements of the Rules.**

The quality of the workmanship and material employed in the construction of the turbines has been found good.

Due to an insufficient supply of steam at the Engine Builders Works, it was not possible to test these machines under full load conditions and will therefore be necessary to carry out these tests after fitting on board ship.

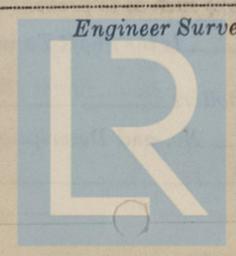
In the opinion of the undersigned, subject full load tests being carried out and found satisfactory, these steam turbines are suitable for installation in a vessel to be classed with this Society for the purpose intended.

ATTACHMENTS: St.Etienne Certificates 920/A2, 920/J2, 920/N2, 920/G2 & 920/P2.

The amount of Entry Fee	£ 200.000	When applied for
Special	£ :	19
Donkey Boiler Fee	£ :	When received
Travelling Expenses (if any)	£ 25.400	19

FRIDAY 22 MAR 1957

Committee's Minute
 Assigned **Sir Rpt. 1**

Engineer Surveyor to Lloyd's Register of Shipping.

 Lloyd's Register Foundation

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