

AUX
Report on Steam Turbine Machinery. No. 106363

Received at London Office 27 JUL 1949
NEWCASTLE-on-TYNE
Survey held at Wallsend / Tyne 1949 Date, First Survey 28/4/49 Last Survey 21/6/49
on the T.E.S. Esso Birmingham. (Number of Visits 16)
made at Chester, Pa. By whom built Sun S.B. & Dry Dock Co. Yard No. 26-65859 When built 1943
made at Lynn, Mass. By whom made General Electric Co. AUX Engine No. 65861 When made 1943
made at By whom made Babcock & Wilcox Ltd. Boiler No. When made 1943
Horse Power at Full Power 6000 Owners Anglo American Oil Co Ltd Port belonging to London
Horse Power as per Rule 1500 MW Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes
for which Vessel is intended Carrying Petroleum in bulk.

AUX TURBINE ENGINES, &c.—Description of Engines Two single reduction geared impulse turbines
Ahead One Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing
Aster No. double reduction geared also 2 exhausters 1-75KW. 1-50KW
Coupled to Alternating Current Generator 3 phase 60 periods per second rated 400 Kilowatts 450 Volts at 1200 revolutions per minute;
Driving power for driving Propelling Motors, Type
Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

ENGINE.	H. P.	I. P.	L. P.	ASTERN.
No. of rows	6 stages			
No. of stages				
No. of rows in each stage				

Horse Power at each turbine H.P. 700 I.P. 5645 L.P. 1200
Revolutions per minute, at full power, of each Turbine Shaft 1st reduction wheel 1200 main shaft 1200
Shaft diameter at journals H.P. 2 1/2" I.P. 5 1/2" L.P. 8 1/2" Pitch Circle Diameter 1st pinion 5.43 1st reduction wheel 25.58 2nd pinion main wheel 8 1/2" Width of Face 1st reduction wheel 8 1/2" main wheel 8 1/2"

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 6.58 2nd pinion main wheel 8 1/2" 1st reduction wheel 8 1/2" 2nd reduction wheel 8 1/2"
Pinion diameter 1st 4" 2nd 5" Pinion Shafts, diameter at bearings External 1st 4" 2nd 5" Internal 1st 4" 2nd 5" diameter at bottom of pinion teeth 1st 5.125" 2nd 5"
Shafts, diameter at bearings 1st 4" 2nd 5" main 5" Generator Shaft, diameter at bearings 5" Propelling Motor Shaft, diameter at bearings
Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted

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

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.
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.
Pitch No. of Bades State whether Moveable Total Developed Surface square feet.
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

No. of Turbines fitted with astern wheels. Feed Pumps No. and size How driven
connected to the Main Bilge Line No. and size How driven
Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size

independent means arranged for circulating water through the Oil Cooler Suctions, connected both to Main Bilge Pumps and Auxiliary
Pumps, No. and size:—In Engine and Boiler Room In Pump Room
s, &c.

Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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

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

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

or from one compartment to another. Is the Shaft Tunnel watertight. Is it fitted with a watertight door. worked from
S, &c.—(Letter for record) Total Heating Surface of Boilers Working Pressure
ed Draft fitted. No. and Description of Boilers
Report on Main Boilers now forwarded?

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 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.

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops - -
During erection on board vessel - -
Total No. of visits

Dates of Examination of principal parts—Casings Rotors Blading Gearing
Wheel shaft 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 Identification Mark
Flexible Pinion Shaft, Material and tensile strength Identification Mark
Pinion shaft, Material and tensile strength Identification Mark

; Chemical analysis.
If Pinion Shafts are made of special steel state date of approval of chemical analysis, physical properties and heat treatment.
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 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 T2. Tanker Auxiliaries

General Remarks. (State quality of workmanship, opinions as to class, &c.)

These Machines have been constructed under the supervision of the U.S. Coastguard & the American Bureau of Shipping. The workmanship is good the Materials considered sound. The Machines have been examined opened & under working conditions & found efficient.

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

FRI. 14 OCT 1919

(Committee's Minute)

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.



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