

## REPORT ON STEAM TURBINE MACHINERY.

No. 9141

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pt. 4a.

19th June 1950 When handed in at Local Office 19th June 1950 Port of Baltimore, Maryland  
of writing Report. 19th June 1950  
o. in Survey held at Baltimore, Maryland Date, First Survey 24th April Last Survey 5th May 1950  
Reg. Book  
3046 on the S.S. "IMPERIAL ALBERTA"  
Tons { Gross  
Net  
uilt at Chester, Pa. By whom built Sun S.B. & Drydock Co. Yard No. 568 When built 1949  
Engines made at Lynn, Mass. By whom made General Electric Turbo - Art. 71562 When made 1949  
Boilers made at Barberton, Ohio By whom made Barberton & Wilcox Gear - Art. 86342 When made 1949  
Shaft Horse Power at Full Power 12500 Owners Imperial Oil Co. Generator - Art. 86343 When made 1949  
Nom. Horse Power as per Rule - Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which Vessel is intended Foreign. Port belonging to Halifax

## STEAM TURBINE ENGINES, &amp;c.—Description of Engines. Geared Turbine Generator Set.

Ahead - Direct coupled, single reduction geared } to - propelling shafts. No. of primary pinions to each set of reduction gearing -  
Astern - double reduction geared }  
Direct coupled to { Alternating Current Generator 3 phase 60 periods per second } rated 400 Kilowatts 440 Volts at 1200 revolutions per minute;  
supplying power for driving - Propelling Motors, Type -  
ed - Kilowatts - Volts at - revolutions per minute. Direct coupled, single or double reduction geared to - propelling shafts.

TURBINE  
LOADING.

	H. P.											
	HEIGHT OF BLADES. AT TIP.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1st EXPANSION	.440"	19.342"	1									
2nd	.695"	17.597"	1									
3rd	1.110"	17.614"	1									
4th	1.040"	18.372"	1									
5th	1.420"	19.102"	1									
6th	2.200"	20.230"	1									
7th												
8th												
9th												
10th												
11th												
12th												
13th												
14th												
15th												

Shaft Horse Power at each turbine { H.P. 10.059 1st reduction wheel -  
I.P. -  
L.P. - main shaft 1200  
Revolutions per minute, at full power, of each Turbine Shaft {

Motor Shaft diameter at journals { H.P. 2.50  
I.P. - Pitch Circle { 1st pinion 3.4 1st reduction wheel -  
L.P. - Diameter { 2nd pinion - main wheel 28.5 Width of { 1st reduction wheel 8 1/2"  
Face { main wheel 8 1/2"

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 6" 1st reduction wheel -  
2nd pinion - main wheel -

Flexible Pinion { 1st -  
Shafts, diameter { 2nd - Pinion Shafts, diameter at bearings External 1st { 3" 2nd { - diameter at bottom of pinion teeth { 1st 3.1696"  
Internal 1st { - 2nd { - { 2nd -

Wheel Shafts, diameter at bearings { 1st -  
main 4" diameter at wheel shroud, { 1st - Generator Shaft, diameter at bearings 3"  
main 4-1/8" Propelling Motor Shaft, diameter at bearings -

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

Propeller Shaft, diameter as per rule - Is the { tube { shaft fitted with a continuous liner { - Bronze Liners, thickness in way of bushes as per rule -  
as fitted - as fitted - as fitted -

Thickness between bushes as per rule - 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

other appliance fitted at the after end of the tube shaft. 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. Turbine 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 -

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

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

Holds, &c. -

In Water Circulating Pump Direct Bilge Suctions, No. and size - Independent Power Pump Direct Suctions to the Engine Room

Pipes, 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. -

Are pipes pass through the bunks. - How are they protected. -

Are 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. -

Are the arrangements 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. -

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24



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?.....

Is { a Donkey } Boiler fitted?..... If so, is a report now forwarded?.....  
{ an Auxiliary }

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.....

Spare Gear. State the articles supplied:..... One set of bearings for all bearings, one set of bearing bolts and casing bolts.

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 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.....

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.....

Is this machinery a duplicate of a previous case..... Yes..... If so, state name of vessel..... S.S. "KUWAIT"

General Remarks (State quality of workmanship, opinions as to class, &c..... The above turbo electric generator sets have been satisfactorily installed on board the vessel under special survey of the American Bureau of Shipping and the U.S.C.G. The turbo generator sets have been examined under working conditions and found in good order.

The amount of Entry Fee .... £ See : When applied for,  
Special .... £ Rep. 9 : 19  
Donkey Boiler Fee .... £ : When received,  
Travelling Expenses (if any) £ : 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

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