

Form 4a.

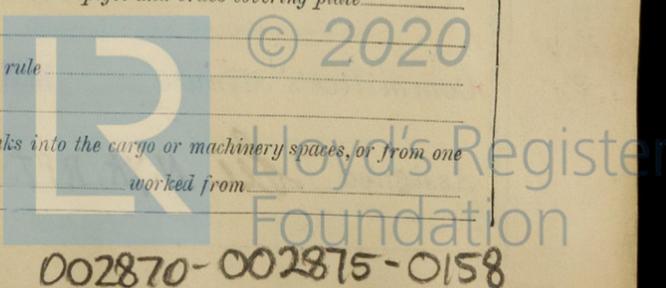
AUX 13 REPORT ON STEAM TURBINE MACHINERY. No. 8129

Date of writing Report Sept 20 1941 When handed in at Local Office Sept 20 1941 Port of Philadelphia Received at London Office 4 APR 1942
 No. in Survey held at Hendon NJ Date, First Survey 11 July Last Survey 20 Aug 1941
 Reg. Book. on the Hull 193 (Number of Visits 2)
 Built at Kearny NJ By whom built Federal SB Co Yard No. 192 When built _____
 Engines made at Hendon NJ By whom made De Laval Steam Turbine Co Engine No. 231374 When made 1941
 Boilers made at _____ By whom made _____ Boiler No. _____ When made _____
 Shaft Horse Power at Full Power _____ Owners Smclair Navigation Co Port belonging to _____
 Nom. Horse Power as per Rule _____ 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 Steam Turbine
 No. of Turbines 1 Ahead 1 Direct coupled single reduction geared } to 1 propelling shafts No. of primary pinions to each set of reduction gearing 1
double reduction geared
 Direct coupled to { Alternating Current Generator _____ phase _____ periods per second _____ } rated 250 Kilowatts 240 Volts at 1200 revolutions per minute;
 for 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		
	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.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1st EXPANSION	<u>1.115</u>	<u>20.720</u>	<u>1</u>									
2nd	<u>.780</u>	<u>20.720</u>	<u>1</u>									
3rd	<u>.620</u>	<u>23.830</u>	<u>1</u>									
4th	<u>1.140</u>	<u>24.120</u>	<u>1</u>									
5th	<u>.920</u>	<u>20.780</u>	<u>1</u>									
6th	<u>1.310</u>	<u>21.090</u>	<u>1</u>									
7th	<u>1.720</u>	<u>21.630</u>	<u>1</u>									
8th	<u>2.260</u>	<u>22.306</u>	<u>1</u>									

Shaft Horse Power at each turbine { H.P. 367 I.P. _____ L.P. _____ } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 5650 I.P. _____ L.P. _____ }
 Rotor Shaft diameter at journals { H.P. 3" I.P. _____ L.P. _____ } Pitch Circle Diameter { 1st pinion 4.890" 1st reduction wheel 23.000" 2nd pinion _____ main wheel _____ } Width of Face { 1st reduction wheel 6 1/2" main wheel _____ }
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 6 1/8" 1st reduction wheel _____ }
 Flexible Pinion Shafts, diameter { 1st _____ 2nd _____ } Pinion Shafts, diameter at bearings { External 1st 2 1/2" 2nd _____ } diameter at bottom of pinion teeth { 1st 4.618" 2nd _____ }
 Wheel Shafts, diameter at bearings { 1st 4 1/2" main _____ } diameter at wheel shroud, { 1st 6 1/2" main _____ } Generator Shaft, diameter at bearings 3" Propelling Motor Shaft, diameter at bearings _____
 Intermediate Shafts, diameter as per rule _____ as fitted _____ Thrust Shaft, diameter at collars _____ as per rule _____ as fitted _____ Tube Shaft, diameter as per rule _____ as fitted _____
 Screw Shaft, diameter as per rule _____ as fitted _____ Is the { tube } shaft fitted with a continuous liner { _____ } Bronze 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 _____ 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.
 If 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 _____
 Are 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. _____
 Main Water Circulating Pump Direct Bilge Suctions, No. and size _____ 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 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 _____
 That pipes pass through the bunkers _____ How are they protected _____
 That 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 _____



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 Auxilliary }

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:— 1 thermometer, 2 springs, 2 springs for governor, 2 sets coupling bolts, 1 set oil pump gears, 1 set carbon rings, thrust rings & shoes, 1 set of turbine pinion & gear bearings, 4 studs for turbine casing joint, 1 gear case joint, 1 set of special wrenches.

The foregoing is a correct description,

De Laval Steam Turbine Co Manufacturer
J. Mitchell

Dates of Survey while building { During progress of work in shops -- 11 July 20 Aug 1941
{ During erection on board vessel ---
Total No. of visits

Dates of Examination of principal parts—Casings 20 Aug Rotors 20 Aug Blading 20 Aug Gearing 20 Aug

Wheel shaft 20 Aug 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 O H Steel 99500 lbs. Identification Mark 1937 JKH

Flexible Pinion Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength O H Steel 107000 lbs Identification Mark 1935 JKH

1st Reduction Wheel Shaft, Material and tensile strength Identification Mark

Wheel shaft, Material O H Steel Identification Mark 1936 JKH 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. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) This generating set has been constructed under Special Survey and in accordance with the approved plans, the workmanship & materials are good. It has been tested in the shop under full load, over load & over speed & all found satisfactory. The unit has been shipped to the Federal S.B.C. Kearny NJ for installation on board the vessel.

The amount of Entry Fee ... \$ 75 : 00 :
Special ... \$ 7 : 50 :
Donkey Boiler Fee ... \$ 7 : 50 :
Travelling Expenses (if any) £ : :
When applied for, 22nd Sept. 1941
When received, 19

M. R. Penham
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK FEB 25 1942

Assigned See N.Y.K. RPT. NO. 42143.



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