

Date of writing report 28.12.60 Received London Sydney, N.S.W. No.  
Survey held at SYDNEY, N.S.W. No. of visits In shops 5 First date 12/5/60 Last date 16/11/60  
On vessel

## FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Non-propelled oil Barge "B.P. SYDNEY" Gross tons 450  
Owners B.P. Australia Ltd. Managers - Port of Registry Not registered  
Hull built at Sydney By Chadwick Engr. Pty. Ltd. Yard No. 2 When 1960 9  
Main Engines made at None By - Eng. No. When  
Gearing made at None By -  
Donkey boilers made at Fremantle By Tomlinson Steel Ltd. Blr. Nos. 10842 When 1960 2  
Aux. Machinery installed at Sydney By Chadwick Engr. Pty. Ltd. When 1960 11  
Particulars of restricted service of ship, if limited for classification Sydney Harbour Service.  
Particulars of vegetable or similar cargo oil notation, if required -  
Is ship to be classed for navigation in ice? - Is ship intended to carry petroleum in bulk? No  
Is refrigerating machinery fitted? - If so, is it for cargo purposes? - Type of refrigerant -  
Is the refrigerating machinery compartment isolated from the propelling machinery space? - Is the refrigerated cargo installation intended to be classed? -

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines. No. of propellers. Brief description of propulsion system

## MAIN RECIPROCATING ENGINES. Licence Name and Type No.

No. of cylinders per engine Dia. of cylinders stroke(s) 2 or 4 stroke cycle Single or double acting

Maximum approved BHP per engine at RPM of engine and RPM of propeller.

Corresponding MIP (For DA engines give MIP top & bottom) Maximum cylinder pressure Machinery numeral

Are the cylinders arranged in Vee or other special formation? If so, number of crankshafts per engine

TWO STROKE ENGINES. Is the engine of opposed piston type? If so, how are upper pistons connected to crankshaft?

Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? No. and type of mechanically driven scavenge pumps or blowers per engine and how driven

No. of exhaust gas driven scavenge blowers per engine Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action?

If a stand-by or emergency pump or blower is fitted, state how driven No. of scavenge air coolers Scavenge air pressure at full power Are scavenge manifold explosion relief valves fitted?

FOUR STROKE ENGINES. Is the engine supercharged? Are the undersides of the pistons arranged as supercharge pumps? No. of exhaust gas driven blowers per engine No. of supercharge air coolers per engine Supercharge air pressure Can engine operate without supercharger?

TWO & FOUR STROKE ENGINES-GENERAL. No. of valves per cylinder: Fuel Inlet Exhaust Starting Safety

Material of cylinder covers Material of piston crowns Is the engine equipped to operate on heavy fuel oil?

Cooling medium for :-Cylinders Pistons Fuel valves Overall diameter of piston rod for double acting engines

Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? Frames? Entablature? Is the crankcase separated from the

underside of pistons? Is the engine of crosshead or trunk piston type? Total internal volume of crankcase No. and total area of explosion relief

devices Are flame guards or traps fitted to relief devices? Is the crankcase readily accessible? If not, must the engine be removed for

overhaul of bearings, etc? Is the engine secured directly to the tank top or to a built-up seating? How is the engine started?

Can the engine be directly reversed? If not, how is reversing obtained?

Has the engine been tested working in the shop? How long at full power?

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system State barred speed range(s), if imposed

for working propeller For spare propeller Is a governor fitted? Is a torsional vibration damper or detuner fitted to the shafting?

Where positioned? Type No. of main bearings Are main bearings of ball or roller

type? Distance between inner edges of bearings in way of crank(s) Distance between centre lines of side cranks or eccentrics of opposed piston engines

Crankshaft type: Built, semi-built, solid. (State which)

Diameter of journals Diameter of crankpins Centre Breadth of webs at mid-throw Axial thickness of webs

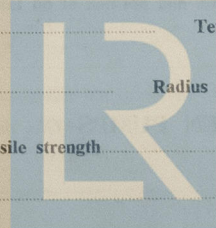
If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals Approved

Webbs Tensile strength

Diameter of flywheel Weight Are balance weights fitted? Total weight Radius of gyration

Diameter of flywheel shaft Material Minimum approved tensile strength

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which)



© 2021

Lloyd's Register  
Foundation

01825 04833 0186 1/2



# MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines ..... Open or closed cycle ..... BHP per set ..... at ..... RPM of output shaft .....  
 How is drive transmitted to propeller shaft? .....  
 ARRANGEMENT OF TURBINES. HP drives ..... at ..... RPM HP gas inlet temperature ..... pressure .....  
 (A small diagram should be attached showing gas cycle.) IP drives ..... at ..... RPM IP gas inlet temperature ..... pressure .....  
 LP drives ..... at ..... RPM LP gas inlet temperature ..... pressure .....  
 No. of air compressors per set ..... Centrifugal or axial flow type? ..... Material of turbine blades ..... Material of compressor blades .....  
 No. of air coolers per set ..... No. of heat exchangers per set ..... How are turbines started? .....  
 How is reversing effected? ..... Are the turbines operated in conjunction with free piston gas generators? .....  
 Total No. of free piston gas generators ..... Diameter of working pistons ..... Diameter of compressor pistons ..... No. of double strokes per minute at full power ..... Gas delivery pressure ..... Gas delivery temperature ..... Have the turbines and attached equipment been tested working in the shop? ..... How long at full power? .....

## ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)

No. of generators ..... KW per generator ..... at ..... RPM AC or DC? ..... Position .....  
 No. of propulsion motors ..... SHP per motor ..... at ..... RPM Position .....  
 How is power obtained for excitation of generators? ..... Motors? .....

## REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)

Is gearing of single or double helical type? ..... If single, position of gear thrust bearing ..... Is gearing of epicyclic type? .....  
 PCD of pinions: First reduction ..... Second reduction ..... PCD of wheels: First reduction ..... Main .....  
 Material of pinions ..... Tensile strength ..... Material of wheel rims ..... Tensile strength .....  
 Are gear teeth surface hardened? ..... How are teeth finished? ..... Diameter of pinion journals ..... Wheel shaft journals .....  
 Are the wheels of welded construction? ..... Is gearcase of welded construction? ..... Has the wheel/gearcase been heat treated on completion of welding? ..... Where is the propeller thrust bearing located? ..... Are gear bearings of ball or roller type? .....

## CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting give brief description and, for clutches, state how operated

Can the main engine be used for purposes other than propulsion when declutched? ..... If so, what? .....

STRAIGHT SHAFTING. Diameter of thrustshaft ..... Material ..... Minimum approved tensile strength .....  
 Shaft separate or integral with crank or wheel shaft? ..... Diameter of intermediate shaft ..... Material .....  
 Minimum approved tensile strength ..... Diameter of screwshaft cone at large end ..... Is screwshaft fitted with a continuous liner? .....  
 Diameter of tube shaft. (If these are separate shafts) ..... Is tube shaft fitted with a continuous liner in way of stern tube ..... Thickness of screw/tube shaft liner at bearings ..... Thickness between bearings ..... Material of screw/tube shaft ..... Minimum approved tensile strength .....  
 Is an approved oil gland fitted? ..... If so, state type ..... Length of bearing next to and supporting propeller .....  
 Material of bearing ..... In multiple screw vessels is the liner between stern tube and A bracket continuous? ..... If not, is the exposed length of shafting between liners readily visible in dry dock? .....

PROPELLER. Diameter of propeller ..... Pitch ..... Built up or solid ..... Total developed surface .....  
 No. of blades ..... Blade thickness at top of root fillet ..... Blade material ..... Moment of inertia of dry propeller .....  
 If propeller is of special design, state type ..... Is propeller of reversible pitch type? ..... If so, is it of approved design? .....  
 State method of control ..... Material of spare propeller ..... Moment of inertia .....

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine ..... Can they be declutched? .....  
 No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) .....  
 No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) .....  
 How are receivers first charged? ..... Maximum working pressure of starting air system ..... Are the safety devices in accordance with the Rules? ..... Has the starting of the main engines been tested and found satisfactory? .....

COOLERS. No. of main engine fresh water coolers ..... No. of main engine lubricating oil coolers .....  
 OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure ..... None.

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) ..... -

INDEPENDENT PUMPS Name below essential pumps, state position and how driven. Give capacity of bilge pumps.	Service for which each pump is connected to be marked thus X														
	SUCTION								DELIVERY						
	Bilge Main	Bilge Direct	Ballast Main	Cargo Oil Fuel	Fresh Water Cool- ing	Sea	Feed Tanks	Lub. Oil	Boiler Feed	Salt Water Cool- ing	Fresh Water Cool- ing	Oil Fuel Tanks	Bunker 4" Main	Over- board	Piston Cool- ing
Fwd. Bilge pump		X													X
(2" Semi-rotary hand pump)															
Aft Bilge pump		X													X
(2" Semi-rotary hand pump)															
Chain Locker pump		X													X
(1½" Semi-rotary)															
4" Diesel Stripping pump		X		X									X		
12" Diesel Cargo pump				X										X	
												</			

BILGE SUCTIONS. No. and size in each hold, deep tank or pump room ..... One 2" to fwd. buoy. compt., one 2" to Pump room, One 1½" to Chain Locker.

No. and size connected to main bilge line in main engine room ..... - In tunnel ..... -

In aux. engine room ..... - Size and position of direct bilge suction in machinery spaces ..... -

Size and position of emergency bilge suction in machinery spaces ..... One 4" to Stripping pump.

Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? ..... No ..... Do the piping arrangements comply with the Rules including special requirements for ships carrying petroleum-in-bulk, cargo oil or ~~or-charged for navigation in ice~~ (strike out words not applicable). ..... Yes

## STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
Pump room	Diesel engine	G.M. Corp.	-	A.C. Generator, 25KW
" "	" "	" "	-	Stripping pump
" "	" "	" "	-	Cargo oil pump

Is electric current used for essential services at sea? ..... - If so, state the minimum No. and capacity of generators required in order that the ship may operate at sea ..... - Is an electric generator driven by Main Engine? ..... -

STEAM INSTALLATION. No. of donkey boilers burning oil fuel ..... One w.p. 150 p.s.i. Type Cylindrical Multitubular  
 Position Boiler flat above pump room.

Is a superheater fitted? No ..... Are these boilers also heated by exhaust gas? No ..... No. of donkey boilers heated by exhaust gas only? ..... W.P. .....  
 Type ..... Position ..... Can the exhaust heated boilers deliver steam directly to the steam range or do they operate only as economisers in conjunction with oil fired boilers? ..... Port and No. of report on donkey boilers/ Fremantle 2015 ..... Is steam essential for operation of the ship at sea? No ..... Are any steam pipes over 3 ins. bore? No ..... If so, what is their material? ..... For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? Yes ..... No. of oil burning pressure units None ..... No. of steam condensers None ..... No. of Evaporators None .....

STEERING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) ..... None.

Have the Rule Requirements for fire extinguishing arrangements been complied with? Yes ..... Brief description of arrangements Steam smothering fitted below boiler & under floor in pump room. 4-2 gall. Foam & 1-10 lbs. CO2 portable extinguishers in Boiler & pump room. 10 cu. ft. of sand on firing platform.  
 Has the spare gear required by the Rules been supplied? ..... Has all the machinery been tried under full working conditions and found satisfactory? Yes ..... Date and duration of full-power sea trials of main engines Dock trials only. Does this machinery installation contain any features of a novel or experimental nature? (Give particulars) ..... Cargo oil pumping installation only.

The foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable).



GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The auxiliary machinery has been installed in accordance with the Society's Rules, approved plans and Secretary's letters, tried under working conditions and found satisfactory.

Quality of materials and workmanship appears satisfactory.

*A. B. Johnson*

Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS ((Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS

CRANKSHAFT OR ROTORSHAFT

FLYWHEEL SHAFT

THRUSTSHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? No

If so, state name of vessel

Date of approval of plans for crankshaft

Straight shafting

Gearing

Clutch

Separate oil fuel tanks

Pumping arrangements

25.1.60

Oil fuel arrangements

8.4.59

Cargo oil pumping arrangements

8.4.59

Air receivers

Donkey boilers

30.12.59

Dates of examination of principal parts:—

Fitting of stern tube

Fitting of propeller

Completion of sea connections

26.7.60

Alignment of crankshaft in main bearings

Engine chocks & bolts

Alignment of gearing

Alignment of straight shafting

Testing of pumping arrangements

13.9.60

Oil fuel lines

13.9.60

Donkey boiler supports

9.7.60

Steering machinery

Windlass

14.9.60

Date of Committee

FRIDAY 24 MAR 1961

Special Survey Fee

£50. 0. 0

Decision

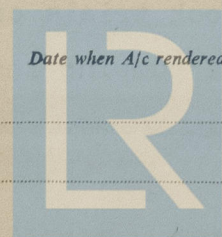
See Rpt. 1.

Expenses

£1. 5. 0

Date when A/c rendered

12.1.61



Lloyd's Register  
Foundation