

Rpt. 4b

Date of writing report 9/10/56.

Received London 13 OCT 1956

Port HULL.

No. 62532.

Survey held at HULL.

In shops No. of visits On vessel 8.

First date 6/2/56.

Last date 27/9/56.

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 90483 Name "ESSO SALTEND" Gross tons 170.46

Owners Esso Petroleum Co.Ltd. Managers - Port of Registry Hull.

Hull built at Thorne. By Richard Dunston, Ltd. Yard No. T.916. Year Month 1956

Main Engines made at Stamford, Lincs. By Blackstone & Co.Ltd. Eng. No. M.67364. When 1956

Gearing made at Slough. By Modern Wheel Drive, Ltd.

Donkey boilers made at - By - Blr. Nos. - When -

Machinery installed at Thorne. By Richard Dunston, Ltd. When 1956.

Particulars of restricted service of ship, if limited for classification for service on the Humber and the Trent & Aire & Calder Canals.

Particulars of vegetable or similar cargo oil notation, if required -

Is ship to be classed for navigation in ice? No. Is ship intended to carry petroleum in bulk? Yes.

Is refrigerating machinery fitted? No. 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 One No. of propellers One Brief description of propulsion system Diesel driving through 2:1 Reverse Reduction Gearing.

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Blackstone EVMGR.4 Heavy oil.

No. of cylinders per engine 4 Dia. of cylinders 8 3/4" stroke(s) 11 1/2" 2 or 4 stroke cycle 4 Single or double acting Single.

Maximum approved BHP per engine 180 at 600 RPM of engine and 308.5 RPM of propeller.

Corresponding MIP (For DA engines give MIP top & bottom) Maximum cylinder pressure 800 lb/sq.in. Machinery numeral 36

Are the cylinders arranged in Vee or other special formation? No. 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? No. Are the undersides of the pistons arranged as supercharge pumps? No. No. of exhaust gas driven blowers per engine -

None. 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? Yes - Is the crankcase readily accessible? Yes - 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? Build up seating. How is the engine started? Compressed air.

Can the engine be directly reversed? No. If not, how is reversing obtained? Reverse Reduction Gear.

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 None. For spare propeller None. Is a governor fitted? Yes. Is a torsional vibration damper or detuner fitted to the shafting? Yes.

Where positioned Between engine flywheel and Reversing gear pinion shaft. Type Combined flexible coupling & Nodal Torsional Vibration damper. 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 - Pins - Minimum -

Diameter of flywheel - Weight - Are balance weights fitted? - Total weight - Webs - Tensile strength -

Diameter of flywheel shaft - Material - Minimum approved tensile strength - Radius of gyration -

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

SEE LONDON FIRST ENTRY REPORT NO. 133898

SEE LONDON REPORT NO. 133898



Lloyd's Register Foundation 011273-011279-0184

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? _____

REVERSE

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 both 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? _____

SEE LONDON REPORT 10 M.W.D. No. 1453.

Reverse Reduction Gear Box.

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. Combined flexible coupling and Nodal Torsional Vibration Damper.

Can the main engine be used for purposes other than propulsion when declutched? No. If so, what? _____

STRAIGHT SHAFTING. Diameter of thrustshaft _____ Material _____ Minimum approved tensile strength _____

Shaft integral with _____ Reverse reduction unit. Diameter of intermediate shaft _____ Material O.H.Stl. _____

Minimum approved tensile strength 28 T.P.S.I. Diameter of screwshaft cone at large end 4.333" Is screwshaft fitted with a continuous liner? No. _____

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 screwshaft Forged Steel. Minimum approved tensile strength 28 T.P.S. _____

Is an approved oil gland fitted? Yes If so, state type Newark. Length of bearing next to and supporting propeller 1'-6" _____

Material of bearing White Metal. 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 53" Pitch 41.5" Built up or solid Solid Total developed surface 1330 sq. inch Wt. 460 lb. _____

No. of blades 5 Blade thickness at top of root fillet 1.75" Blade material Manganese Bronze Moment of inertia of dry propeller Rod of Gyration 10'-7". _____

If propeller is of special design, state type No. Is propeller of reversible pitch type? No. If so, is it of approved design? _____

State method of control _____ Material of spare propeller C.I. Moment of inertia Propeller not yet designed. _____

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine One. Can they be declutched? Yes. _____

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) One F.A.D. 6 cu.ft./Min. H.O. Aux. Engine (s.s.a.) Southampton Rpt. 10 No. D. 8309. _____

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) Three (p.s.a.) 5 cu.ft. each. Leeds Rpts. 10 Nos. C. 26461; C. 26462; C. 26473. _____

How are receivers first charged? Hand start Aux. Eng. Maximum working pressure of starting air system 395 lb/sq. in. Are the safety devices in accordance with the Rules? Yes. Has the starting of the main engines been tested and found satisfactory? Yes. _____

COOLERS. No. of main engine fresh water coolers One. No. of main engine lubricating oil coolers One (Also one for gearing unit). _____

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure One (subdivided) aft. E.R. Bulkhead C/L. _____

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) One S.W.; One F.W. Cooling.; Two L.O. also one L.O. off reduct gear unit. _____

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	Oil Fuel	Fresh Water Cooling	Sea	Feed Tanks	Lub. Oil	Boiler Feed	Salt Water Cooling	Fresh Water Cooling	Oil Fuel Tanks	Fire Main	Lub. Oil	Piston Cooling	Over-Board.
G.S. Pump. P.S. Aux. 30 T.P.H.	X	X									X	X	X	X		X
G.S. Pump. S.S. Aux. 30 T.P.H.	X										X	X	X	X		X

BILGE SUCTIONS. No. and size in each hold, deep tank or pump room Fwd. C.D. 1 x 1 1/2" (Rotary Hand); 1 x 1 1/2" (Rotary Hand) Pump Room.

No. and size connected to main bilge line in main engine room Two x 2" _____

Size and position of direct bilge suction in machinery spaces 1 x 2 1/2" P.S.A. _____

Size and position of emergency bilge suction in machinery spaces As above. _____

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, ~~or other liquid cargo~~ (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)
P.S.A.	4 S.C.S.A. Heavy oil.Ltd.	R.A. Lister	Bristol Report No. SC. 5091.	G.S. Pp. & Cargo Pp.
S.S.A.	-do- -do-	-do- -do-	Bristol Report No. SC. 4873.	G.S. Pp. Air Compressor.
				2 Elec. generators.
				One 2.1 K.W., One 15KW. 110 volts. 110/160 V. Belt driven. Direct driven.

Is electric current used for essential services at sea? No. 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? No. _____

STEAM INSTALLATION. No. of donkey boilers burning oil fuel W.P. _____ Type _____

Position _____

Is a superheater fitted? _____ Are these boilers also heated by exhaust gas? _____ 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. _____

Is steam essential for operation of the ship at sea? _____ Are any steam pipes over 3 ins. bore? _____ If so, what is their material? _____ For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? _____ No. of oil burning pressure units. _____ No. of steam condensers _____ No. of Evaporators _____

STEERING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) Hand - rod and wire. _____

Have the Rule Requirements for fire extinguishing arrangements been complied with? Yes. Brief description of arrangements Hose with jet spray nozzle. _____

Walter Kidde System } 6 off 50 lb. CO2 bottles in Pump Room, Alarm bell in E.Rm. 2 off 10 lbs. CO2 for Machy. spaces. } Sand box. Portable in E.Rm. _____

Has the spare gear required by the Rules been supplied? Yes. 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 27th September, 1956. 10 hrs. Does this machinery installation contain any features of a novel or experimental nature? (Give particulars) No. _____

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). _____

© 2021
 FEB PRO. RICHARD DUNSTON, LTD.
 Lloyd's Register
 Foundation

01273-01274-0184 2/2

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 Machinery has now been efficiently installed in the vessel in accordance with the Rules, approved plans and Secretary's letters, tried under full power working conditions and found satisfactory.

The Machinery is eligible in our opinion to be classed in the Register Book with record *LMC 9,56 and Notation of TSOG 9,56 "Oil Engines".

J. I. Holdroyd
 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 FCL. L.1619/1A. Lloyd's 13/3/56 Liv.A.S.C.

SCREW ~~SCREW~~ SHAFTS FCL.L.1619 Lloyd's 6/3/56 Liv.A.S.C.

PROPELLERS Lloyd's No. P.77209 IPS. R.P. 22/12/55.

OTHER IMPORTANT ITEMS Sterntube Lloyd's test 19/3/56.

SEE LONDON F.E. REPORT No. 133898.

Please see London Rpt. 10 M.W.D.No. 1453.

Is the installation a duplicate of a previous case? Yes. If so, state name of vessel "Esso Leeds" and "Esso Nottingham".

Date of approval of plans for crankshaft - Straight shafting 7/10/55. Gearing - Clutch -

Separate oil fuel tanks 12/11/55. Pumping arrangements 11/10/55. Oil fuel arrangements 11/10/55.

Cargo oil pumping arrangements 19/12/55. Air receivers - Donkey boilers -

Dates of examination of principal parts:-

Fitting of stern tube 15/6/56. Fitting of propeller 15/6/56. Completion of sea connections 15/6/56. Alignment of crank shaft in main bearings 29/8/56.

Engine chocks & bolts 29/8/56. Alignment of gearing 29/8/56. Alignment of straight shafting 29/8/56. Testing of pumping arrangements 19/9/56.

Oil fuel lines - ~~XXXXXXXXXXXX~~ - Steering machinery 27/9/56 (Hand) Windlass 27/9/56 (Hand).

Date of Committee TUESDAY 13 NOV 1956 Installation Special Survey Fee £20.

Decision *LMC 9.56

Expenses £4-11-5a.

