

Rpt. 4b /NK

Date of writing report 28-12-59.

Received London

Port NEWCASTLE-ON-TYNE

No. 116756.

Survey held at Wallsend.

No. of visits In shops

On vessel 14.

First date 20-10-59.

Last date 22-12-59.

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name m/s "QUEENSGATE" Gross tons 199

Owners Hullgate Shipping Co. Ltd. Managers - Port of Registry Goole

Hull built at Wallsend on Tyne By Clelands Shipbuilding Co. Ltd. Yard No. 239 Year Month 1959 12

Main Engines made at Stamford By Blackstone & Co. Ltd. Eng. No. M86415 When 1959

Gearing made at - By Modern Wheel Drive

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

Machinery installed at Wallsend on Tyne By Clelands (Shipbuilding Co. Ltd. When 1959

Particulars of restricted service of ship, if limited for classification

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? No

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 1 No. of propellers 1 Brief description of propulsion system

Oil engine flex. coupling & gear box 2' 1 red.

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Lister-Blackstone EVSMGR 4 type vertical diesel

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? 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

Side Pins Minimum

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

Webs Tensile strength

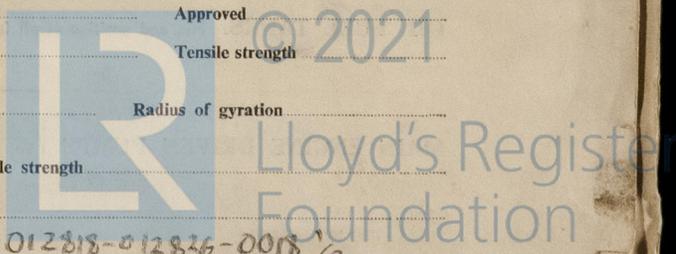
Diameter of flywheel Weight Are balance weights fitted? Total weight Radius of gyration

Diameter of flywheel shaft Material Minimum approved tensile strength

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

SEE ALSO LONDON REPORT No 140359

4/6 17/2/60



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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 $4\frac{1}{2}$ " Material M.S.

Minimum approved tensile strength 28 Ton Diameter of screwshaft cone at large end 5" 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 screw/tube shaft M.S. Minimum approved tensile strength 28T

Is an approved oil gland fitted? Yes If so, state type Newark Length of bearing next to and supporting propeller 1' - 9 $\frac{1}{2}$ "

Material of bearing G.M. Lined W.M. 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 61" Pitch 47" Built up or solid Solid Total developed surface 9 $\frac{1}{2}$ sq.ft.

No. of blades 4 Blade thickness at top of root fillet Blade material M. Bronze Moment of inertia of dry propeller $Wk^2 = 900$ lb sq.

If propeller is of special design, state type Is propeller of reversible pitch type? No 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 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) 1-Air compressor (M.E.) No. TC 4447 H
 1 - Air Compressor 16 cu.ft. F.A.D. (Aux.) No. 2

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) 2-Main air receiver 3 $\frac{1}{2}$ cu.ft. each.

How are receivers first charged? By aux. compressor driven by aux. diesel engine Maximum working pressure of starting air system 350 lbs/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

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure F.O. Service (Port Fwd)
 2nd Grade F.O. Tank (Std. Fwd)

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) 1 - SW Circ. pump 1 - F.W. circ. pump. 1 - bilge pump
 1 - L.O. Pressure pump. 1 - L.O. Scavenge pump.

Service for which each pump is connected to be marked thus X 20 JAN 1960

INDEPENDENT PUMPS Name below essential pumps, state position and how driven. Give capacity of bilge pumps.	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
1 Bilge Pump PS Belt from M.E. 100 G/M	+	+													
1 G.S. Pump SS Aux. Diesel 100 G/M	+	+													

BILGE SUCTIONS. No. and size in each hold, deep tank or pump room Hold 3 - 2 $\frac{1}{2}$ "

No. and size connected to main bilge line in main engine room 1 - 2" In tunnel -

In aux. engine room - Size and position of direct bilge suction in machinery spaces 1 - 2 $\frac{1}{2}$ S.S.
 1 - 3" P.S. Size and position of emergency bilge suction in machinery spaces -

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 classed for navigation in ice? (strike out words not applicable) ✓

STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
E.R. S.S.	Lister HA2MA Air cooled.	Lister-Blackstone	Bristol SC 8003	Compressor & 1 kw Gen.

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? Yes - One 1 kw

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 oilfired 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) Donkin & Co. Ltd. Hand screw

Have the Rule Requirements for fire extinguishing arrangements been complied with? Yes Brief description of arrangements Spray nozzle. 2 - Sand boxes
 2 - scopps. 2 - 2 gall. Foam. 1 - Canvas hose. 1 quart CTC

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 15.12.59. 2 hours 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)

FOR AND ON BEHALF OF
 CLEVELAND'S (SUCCESORS) LIMITED
 Lloyd's Register
 DIRECTOR
 Builder
 001822

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 of this vessel has been constructed and installed under Special Survey and in accordance with the Rules, approved plans and Secretary's letters.

The material and workmanship are good.

The main and auxiliary machinery was examined under working conditions during sea trials at full power with satisfactory results and is eligible in our opinion for classification with records of L.M.C. 12.59, T.S.O.G., Oil Engine Machinery Aft.

Re London letter dated 19.6.59, no gear hammer or rough running was observed during sea trials.

J. H. James
 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 Lth LR No. 2845 14.7.59.

SCREW ~~AXXXXX~~ SHAFTS Lth LR No. 2844 14.7.59.

PROPELLERS No. 6523A. LR. Liv. 24.6.59.

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 11.6.59. Gearing - Clutch -

Separate oil fuel tanks 20.10.59. Pumping arrangements 28.5.59. Oil fuel arrangements 28.5.59.
 25.11.59.

Cargo oil pumping arrangements - Air receivers - Donkey boilers -

Dates of examination of principal parts:-

Fitting of stern tube 2.11.59. Fitting of propeller 10.11.59. Completion of sea connections 19.11.59. Alignment of crankshaft in main bearings -

Engine chocks & bolts 2.12.59. Alignment of gearing 2.12.59. Alignment of straight shafting 2.12.59. Testing of pumping arrangements 14.12.59.

Oil fuel lines 4.12.59. Donkey boiler supports - Steering machinery 15.12.59. Windlass 15.12.59.

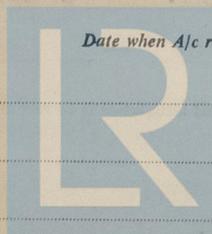
Date of Committee FRIDAY 19 FEB 1960 First entry installation £25. 0. 0.
Special Survey Fee

Decision See Rpt. 8

Expenses

Date when A/c rendered

19 JAN 1960



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