

# Report on Steam Turbine Machinery.

Bel. 15464

No. 125635

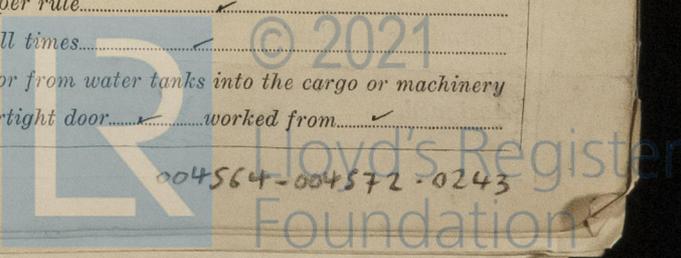
Report 21 OCT 1952 When handed in at Local Office 21 OCT 1952 Port of LONDON Received at London Office 22 NOV 1952  
 Survey held at PETERBOROUGH Date, First Survey 1st July Last Survey 19th Sept 1952  
 (Number of Visits 10)  
 Tons { Gross  
       Net  
 Name of the Vessel Tw. sc. 5/5 "BRAEMAR CASTLE"  
 By whom built Harland & Wolff Ltd Yard No. 1459 When built  
 By whom made Peter Brotherhood Ltd Engine No. 20600F When made 1952-9  
 By whom made Boiler No. When made  
 Owners Union Castle M.S.S. Co. Ltd Port belonging to  
 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
 Which Vessel is intended

## TURBINE ENGINES, &c.—Description of Engines.

Ahead Direct coupled, single reduction geared } to propelling shafts. No. of primary pinions to each set of reduction gearing 1.  
 Astern double reduction geared }  
 Alternating Current Generator phase periods per second }  
 Direct Current Generator } rated 750 Kilowatts 225 Volts at 800 revolutions per minute;  
 power for driving Propelling Motors, Type  
 Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

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.
0.7"											
1.76"											
8.45"											
9.45"											
1.11"											
1.67"											
2.47"											
3.16"											
4.85"											

Power at each turbine H.P. 6000 I.P. 1st reduction wheel L.P. main shaft 800  
 Diameter at journals H.P. 3 1/2" I.P. Pitch Circle Diameter 1st pinion 6.10847 1st reduction wheel Width of Face 1st reduction wheel main wheel 10" L.P. 2nd pinion main wheel 45.8846" 1st pinion 9 3/8" 1st reduction wheel 2nd pinion main wheel 10 3/8" External 1st 4 1/4" 2nd diameter at bottom of pinion teeth 1st 5.88587" Internal 1st 46.0446" Generator Shaft, diameter at bearings 2nd Propelling Motor Shaft, diameter at bearings  
 Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted  
 Screw Shaft, diameter as per rule as fitted Is the { tube } shaft fitted with a continuous liner { screw }  
 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  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of 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  
 Is 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  
 If so, state type Length of Bearing in Stern Bush next to and supporting propeller Total Developed Surface square feet  
 Are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.P. Turbines exhaust direct to the  
 No. of Turbines fitted with astern wheels Feed Pumps { No. and size How driven }  
 Connected to the Main Bilge Line { No. and size How driven }  
 Lubricating Oil Pumps, including Spare Pump, No. and size One  
 Independent means arranged for circulating water through the Oil Cooler Suctions, connected both to Main Bilge Pumps and Auxiliary  
 In Pump Room  
 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  
 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  
 Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks  
 Efficiently high on the ship's side to be seen without lifting the stokehold plates Are the Overboard Discharges above or below the deep water  
 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  
 What pipes pass through the bunkers How are they protected  
 Have they been tested as per rule  
 Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times  
 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  
 one compartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from



**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 }  
 Is the donkey boiler intended to be used for domestic purposes only.....  
 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.**

Has the spare gear required by the Rules been supplied..... *Yes*  
 State the principal additional spare gear supplied..... *One set of gland packings, 1 oil strainer,  
 1 Governor valve, spindle, and seat, set of wearing parts, all springs,  
 1 Set ejector nozzle,  
 1 extraction pump and circulating pump impellers, shafts, and packings,  
 1 closed feed system valve, float, and lever.*

The foregoing is a correct description,

*PETER DROWN*  
*[Signature]*

Dates of Survey while building { During progress of work in shops - - } *July 1<sup>st</sup> Aug 15-22-26-29 Sept 1-5-12-17-19*  
 { During erection on board vessel - - }  
 Total No. of visits..... *Ten (in shops)*

Dates of Examination of principal parts—Casings..... *22-26-8-52* 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 fitting sea connections..... 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..... *Siemens Steel 62.4 Ton/10"* Identification Mark..... *LLOYDS*  
 Flexible Pinion Shaft, Material and tensile strength..... Identification Mark.....  
 Pinion shaft, Material and tensile strength..... *Siemens Steel 44.6/46.2 Ton/10"* Identification Mark..... *J.P. (ween*  
 Reduction Wheel <sup>Rims</sup> Shaft, Material and tensile strength..... *Siemens Steel 32.8/31 Ton/10"* Identification Mark..... *TEP. 62*  
 Wheel shaft, Material..... *Steel* Identification Mark..... *LLOYDS 461* 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..... *17. 9. 52* 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.....  
 If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with.....  
 Is this machinery a duplicate of a previous case..... *Set N° 20600 E* If so, state name of vessel..... *BRAEMAR CASTLE*  
 (For new vessel.)

**General Remarks.** (State quality of workmanship, opinions as to class, &c.)  
*This turbo generator has been built under survey, in accordance with approved plans and of the Rules. Steel used in its manufacture has been made at works approved by the Society under the supervision of the Society's Surveyors. The workmanship is good and the machine is fit, in our opinion, to be fitted aboard a vessel classed with this Society. Satisfactory shop trials have been held at the maker's works, but overload tests unsatisfactory due to facilities not being available and should be completed on board. The turbine is coupled to Harland & Wolff Generator N° 10484, and the set is on load 5/5 "BRAEMAR CASTLE".*

The amount of Entry Fee ... £ 32 : 0 : 0 When applied for.  
 S.H.P. fee purposes 1010  
 Special ... £ : : 21 OCT 1952  
 Donkey Boiler Fee ... £ : : : When received.  
 Travelling Expenses (if any) £ 5 : 5 : : 19.....

*F. H. Sutcliffe & J. Smith*  
 Engineer Surveyor to Lloyd's Register of Shipping

*This Generating Unit was installed on the vessel in a satisfactory manner, examined under full working conditions with satisfactory results.*

Committee's Minute..... **TUES. 16 DEC 1952**

Assigned..... *See P.E. mch. sp. Bel 15464*

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

