

REPORT ON ELECTRIC PROPELLING MACHINERY.

Received at London Office

Date of writing Report 24-9-59 When handed in at Local Office 21.10.1959 Port of SOUTHAMPTON
No. in Survey held at COWES I.O.W. Date, First Survey 16-3-1959 Last Survey 3-9-1959
Reg. Book. No. of Visits 18

Single
on Twin
Triple
Quadruple
Screw vessel "MERMAID" Gross 1425
Tons Net 455
Built at COWES By whom built J. SAMUEL WHITE & CO LTD Yard No. 2002 When built 1959
Electrical Machines made at STAFFORD By whom made ENGLISH ELECTRIC CO. LTD Generator Nos. Dec. 0176-33/34/37/38 When made 1958
Motor Nos. Dec. 0176-84/85
Shaft Horse Power at Full Power 1450 Total Capacity of Generators 1168 kilowatts
Machinery Numeral as per Rule Trinity House Port belonging to LONDON
Trade for which Vessel is intended LIGHTHOUSE TENDER

LANS.— Have plans of the Machines, Control Gear, Cables and Circuits been submitted and approved. YES

TEAM ENGINES.— Type of Engine — No. of Engines — R.P.M. — Is a Governor fitted — Is the speed variation as per Rule when load is thrown off — Is an Emergency Governor fitted — Is it arranged for hand tripping — Does it trip the throttle valve — If exhaust steam is admitted, is an automatic shut-off fitted — Is provision made for bled steam — and is a non-return or positive shut-off valve fitted — Lubricating Oil.— State means provided for emergency supply — Is the emergency reserve sufficient to maintain lubrication as per Rule — Mechanical Balance.— Are the Engines and Generators balanced so as not to cause appreciable vibration —

IL ENGINES.— Type of Engines ENGLISH ELECTRIC 5 SRKM R.P.M. 700 Is a Governor fitted YES Is the speed variation as per Rule when load is thrown off YES Is an Emergency Governor fitted YES Does it operate as per Rule YES

ENERATORS.— Direct or Alternating Current D.C. No. of Generators 4 If A.C. state frequency at full load — Kw. per Generator 292 Volts per Generator 230 Amps. per Generator 1270 Have certificates of works tests been supplied YES and the results found as per Rule YES Ventilation.— State how arranged (open or closed system) TRUNKED SUPPLY

Are ventilating arrangements satisfactory YES Heating when Idle.— What provision is made 500 WATT ELECTRIC HEATER IN EACH MACHINE Facilities for Inspection and Repair.— Are these as per Rule YES Are wear-down gauges supplied NO Bilges.— Are the arrangements to prevent accumulation of bilge-water under the machines satisfactory YES

MOTORS.— S.H.P. per Motor at full power 725 No. of Motors 2 Single or double unit SINGLE Volts per Motor 460 Amps. per Motor 1270 Have certificates of works tests been supplied YES and the results found as per Rule YES A.C. Motors.— Is provision made for machining the slip rings — Do the Motors remain in synchronism under all normal conditions of running — D.C. Motors.— If the system permits overspeeding at light loads are overspeed protection devices fitted YES

EXCITATION.— Is power for excitation taken from the ship's Auxiliary Generators YES If so, state voltage 220 and excitation amperes at full power 96 kilowatts for excitation 20 State excitation arrangements for Propulsion Generators MOTOR GENERATOR SET WITH COMMON EXCITER FOR GENERATORS and Propelling Motors SEPARATE EXCITERS DRIVEN FROM ABOVE MOTOR Is an alternative means of excitation provided DUPLICATE EXCITERS Have certificates of works tests been supplied YES and found as per Rule YES

CONTROL.— Position of Main Control Panel ENGINE ROOM, ON PLATFORM AT FORWARD END Does it comply with the requirements regarding position YES, grouping of controls YES, instruments YES, insulating materials (state type used) PAXLIN & SINDANYD, spacing and shielding of live parts YES, accessibility YES, position of fuses YES, locking of screws and nuts YES, labelling YES, fuses for voltmeters, pilot lamps, etc. YES, provision for manual operation of contractors, etc. (state method employed) HAND WHEEL CONTROL GEAR

earthing of instrument cases above 250 volts to earth YES, provision of renewable tips on switches subject to arcing YES, capability of withstanding shock and inclination YES, operation with high and low voltage YES, rust proofing of parts YES Overload and Short Circuit Protection.— State means provided SYSTEM IS OF MODIFIED WARD LEONARD TYPE PROVIDING DROOPING GENERATOR CHARACTERISTICS GIVING INHERENT PROTECTION

At what load is it set to operate — Has it been tripped by hand when running at full power and found satisfactory — Are fuses of an approved type YES

Earth Detection.— Is the main circuit provided with means for detecting earths YES Are aural and visual alarms fitted YES Is main power interrupted by an earth fault NO If a limiting resistance is in the earth detecting circuit what is the ohmic value 3080 & 1760 What earth leakage current is necessary to operate the device 0.14 If a switch is used to disconnect the aural signal does it automatically give visual indication YES Are the excitation circuits provided with means for earth detection YES Mechanical Protection.— Are circuits above 250 volts to earth protected as per Rule YES

Bridge or Deck Control.— Is bridge control provided YES If so, from how many stations THREE can it be operated freely without producing currents or loads in excess of the working capacity of the plant YES and without reference to electrical instruments YES Is an emergency control provided in the engine room YES and can the transfer to this control be made quickly in the engine room YES Can the emergency control be rendered mechanically independent of the deck control YES Instruments and Gauges.— State Instruments provided for each Generator VOLTMETER & WATTMETER

and for each Motor HORSEPOWER & SPEED METERS & AMMETER IN LOOP CIRCUIT Is an Insulation Tester provided YES

Discharge Protection.— Are all shunt field circuits protected as per Rule YES D.C. Systems.— If the Generators are connected in series state means provided to prevent reversal of direction of rotation of the Prime Movers U/V CONTACTS IN MAIN GENERATOR FIELD

Are the Propulsion Generators also used alternatively for other purposes YES If so, is provision made for overload protection, voltage adjustment, etc. YES

Lloyd's Register
Foundation