

T. 2. TANKER. - G.E.C. TYPE.

No. 105632

pt. 4d.

REPORT ON ELECTRIC PROPELLING MACHINERY.

Received at London Office

Date of writing Report 19... When handed in at Local Office **30 SEP 1948** Port of **NEWCASTLE - UPON - TYNE**
 No. in Survey held at **WALLSEND - ON - TYNE** Date, First Survey **26/8/48** 19... Last Survey **20/9/48** 19...
 Reg. Book. **52702** No. of Visits
 Single on Twin Triple Quadruple Screw vessel **"BEECHER ISLAND"** Tons Gross **10668** Net **6317**
 Built at **MOBILE, ALABAMA** By whom built **ALABAMA D.D. & S.B. Co** Yard No. - When built **1944**
 Electrical Machines made at **LYNN, MASS** By whom made **GENERAL ELECTRIC Co** Generator Nos. - When made **1944**
 Motor Nos. **5690822**
 Shaft Horse Power at Full Power **6000HP @ 90 R.P.M. - 6000HP @ 93 R.P.M.** Total Capacity of Generators **5400** kilowatts
 Machinery Numeral as per Rule **1485** Owners **BRITISH TANKER Co. LTD.** Port belonging to **LONDON**
 Trade for which Vessel is intended **CARRYING PETROLEUM IN BULK.**

Plans.— Have plans of the Machines, Control Gear, Cables and Circuits been submitted and approved. No.

TEAM ENGINES.— Type of Engine **STEAM TURBINE**. No. of Engines **ONE** R.P.M. **3600/2715** Is a Governor fitted **YES** Is the speed variation as per Rule when load is thrown off **YES** Is an Emergency Governor fitted **YES** Is it arranged for hand tripping **YES** Does it trip the throttle valve **YES** 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 **YES** Lubricating Oil.— State means provided for emergency supply **STEAM STANDBY LUB OIL PUMP AND GRAVITY TANK**
 Is the emergency reserve sufficient to maintain lubrication as per Rule **YES** Mechanical Balance.— Are the Engines and Generators balanced so as not to cause appreciable vibration **YES**

AL ENGINES.— Type 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 - Does it operate as per Rule -

GENERATORS.— Direct or Alternating Current **A.C.** No. of Generators **ONE** If A.C. state frequency at full load **60/62**
 Kw. per Generator **5400** Volts per Generator **2300/2370** Amps. per Generator **1237/1315** Have certificates of works tests been supplied **No** and the results found as per Rule - Ventilation.— State how arranged (open or closed system) **CLOSED**
 Are ventilating arrangements satisfactory **YES** Heating when Idle.— What provision is made **RESISTANCE HEATERS**
 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 **6000** No. of Motors **ONE** Single or double unit **SINGLE** Volts per Motor **2300**
 Amps. per Motor **1150** Have certificates of works tests been supplied **No** and the results found as per Rule - A.C. Motors.— Is provision made for machining the slip rings **φ** Do the Motors remain in synchronism under all normal conditions of running **YES** D.C. Motors.— If the system permits overspeeding at light loads are overspeed protection devices fitted -

EXCITATION.— Is power for excitation taken from the ship's Auxiliary Generators **YES** If so, state voltage **120** and excitation amperes at full power **682** kilowatts for excitation **YES** State excitation arrangements for Propulsion Generators **EXCITER WITH AMPHIDYNE CONTROL, DRIVEN BY AUX. ALTERNATOR TURBINE, ALTERNATIVELY MANUAL CONTROL OF EXCITATION**
 and Propelling Motors **SAME AS ALTERNATOR** Is an alternative means of excitation provided **YES**
 Have certificates of works tests been supplied **No** and found as per Rule -

CONTROL.— Position of Main Control Panel **FORWARD END OF CONTROL PLATFORM**
 Does it comply with the requirements regarding position **YES**, grouping of controls **YES**, instruments **YES**, insulating materials (state type used) **FLAT FRONTED BOARD**, 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) **MECHANICALLY OPERATED BY LEVER AND CAMS**

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 **OVERLOAD CURRENT COILS WHICH TRIP EXCITATION**

At what load is it set to operate **50% O.L.** Has it been tripped by hand when running at full power and found satisfactory **YES**
Are fuses of an approved type **AMERICAN PATTERN**

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 **YES** If a limiting resistance is in the earth detecting circuit what is the ohmic value **CURRENT TRANSFORMER** What earth leakage current is necessary to operate the device **X** 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 **No** If so, from how many stations - can it be operated freely without producing currents or loads in excess of the working capacity of the plant - and without reference to electrical instruments - Is an emergency control provided in the engine room - and can the transfer to this control be made quickly in the engine room - Can the emergency control be rendered mechanically independent of the deck control - Instruments and Gauges.— State Instruments provided for each Generator **WATT HOUR METER - ONE A.C. AMMETER - ONE A.C. VOLTMETER - ONE D.C. FIELD AMMETER - ONE R.P.M. TURBINE SPEED METER - ONE D.C. VOLTMETER MOTOR AND GENERATOR FIELDS**

and for each Motor **ONE A.C. AMMETER - ONE H.P. METER - ONE D.C. FIELD AMMETER - ONE SHAFT REV. INDICATOR** 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 -

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

φ - No Tools Supplied. **X** - 7 TAPPINGS ON TRANSFORMER VALVES 0.5, 0.6, 0.8, 1.0, 1.5, 2.0 and 2.5 AMPS

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Reversing Switches.—If any are provided are they interlocked as per Rule. **Yes** Resistances.—Are resistances for synchronous motor fields insulated as per Rule. **Yes** Temperature Alarm.—Are machines with enclosed ventilating system, etc., fitted with temperature alarm. **No**—VISUAL SIGNAL PYROMETERS

CONDUCTORS & CABLES.—Are all essential Conductors stranded as per Rule. **Yes** Are the ends of Paper and Varnished Cambric Insulated Cables sealed. **Yes** Are all Cables carrying A.C. constructed and installed as per Rule. **Yes** Have all Cables been tested at the makers' works. **—**
CABLES ARE TO AMERICAN STANDARDS.

SECONDARY BATTERIES.—Are Batteries used for starting Main Propulsion Engines. **No** If so, have full particulars of rating been submitted and approved. **—** Have they been tested under working conditions and do they give the required number of starts. **—** Are they installed as per Rule. **—** Are the charging arrangements satisfactory. **—**

SPARE GEAR.—If engaged on open sea service has a list of spare gear been submitted and approved. **No** Is a list of the articles supplied attached to this report. **No** Are they stored as per Rule. **Yes**
SPARE GEAR APPROVED BY AMERICAN BUREAU OF SHIPPING.

ELECTRIC PROPULSION EQUIPMENT CONDUCTORS.

DESCRIPTION	CONDUCTORS.		TOTAL MAXIMUM CURRENT—AMPERES.*		AIEE Rule RATING.	MAXIMUM VOLTAGE TO EARTH.	INSULATED WITH.	DI-ELECTRIC THICKNESS.	HOW PROTECTED.
	No. per Pole.	Nominal Area per Pole.	In Circuit. When Running.	When Manoeuvring.					
MAIN GENERATORS	2	2 x 1.1781	1200 ✓	—	2 x 890	2300	V.C.	0.156	ARMoured & BRAIDED
GENERATOR FIELDS	1	0.392	—	—	444	660	V.C.	0.094	" "
MAIN MOTORS	2	2 x 1.1781	1200 ✓	—	2 x 890	2300	V.C.	0.156	" "
MOTOR FIELDS	1	0.392	—	—	444	660	V.C.	0.094	" "
CONTROL CIRCUITS									
OTHER CIRCUITS:—									

*For field circuits the "Hot" and "Cold" value should be given.

The foregoing is a correct description,

Electrical Engineers.

Date.

COMPASSES.—Are Single-Conductor circuits carrying direct current arranged with lead and return Conductors fitted as close to one another as possible

Have tests been made during adjustment of the Compasses to determine the effect of switching the main circuits on and off.

Builders' Signature.

Date.

Is this machinery duplicate of a previous case. **Yes** If so, state name of vessel. **SS "THELICONUS"**

General Remarks (State quality of workmanship, opinions as to class, &c.) **THE ELECTRICAL INSTALLATION TO THE STANDARDS OF THE AMERICAN BUREAU OF SHIPPING HAS BEEN OPERATION FOR APPROXIMATELY FOUR YEARS. THE PROPULSION ALTERNATOR AND MOTOR WERE OPENED UP FOR INSPECTION AND FOUND AFTER CLEANING TO BE IN GOOD ORDER. THE ALTERNATOR WAS CLEANED IN WAY OF THE SLIPRINGS AND SHAFT WHERE A DEPOSIT OF CARBON AND OIL HAD COLLECTED. THE MOTOR WINDINGS WERE CLEANED AND REVARNISHED. ON COMPLETION OF CLEANING THE INSULATION RESISTANCE WAS TAKEN AND FOUND TO BE SATISFACTORY.**
THE MATERIALS USED AND THE WORKMANSHIP ARE SATISFACTORY.
IN MY OPINION THE ELECTRICAL PROPULSION EQUIPMENT OF THIS SHIP IS IN A SATISFACTORY CONDITIONS AND ELIGIBLE TO RECEIVE THE SOCIETY'S CLASSIFICATION OF L.M.C. 9.48.

Notes sub 3/12/48

The amount of Entry Fee ... £ : : When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

Date **FRI. 10 DEC 1948**

Committee's Minute

R. Stone
 Surveyor to Lloyd's Register of Shipping.



The Surveyors are requested not to write on or below the space for Committee's Minute.