

REPORT ON ELECTRIC PROPELLING MACHINERY.

No. 126369

Received at London Office
Date of writing Report 18-12-1947 When made in at Local Office 1947 Port of LIVERPOOL 7 JAN 1948
No. in Survey held at Liverpool Date, First Survey 29/10/47 19 Last Survey 17/11/1947
No. of Visits 6

143 on Single Screw vessel "THELAMUS" ex "FORT RALBIGH" Tons Gross 10448 Net 6301

built at Portland, Or. By whom built Kaiser Co. Inc. Yard No. When built 1945

Electrical Machines made at Schenectady By whom made General Elec. Co. Generator Nos. 5840782 When made 1945
Motor Nos. 6037877

Shaft Horse Power at Full Power 6000/6600 Total Capacity of Generators 4925/5400 kilowatts

Machinery Numeral as per Rule 1058 Owners Anglo Saxon Pet. Co. Ltd. Port belonging to London
Trade for which Vessel is intended Carrying petroleum in bulk.

ANS.— Have plans of the Machines, Control Gear, Cables and Circuits been submitted and approved Typical plan of T2 Turbo approved.

PRIME MOVERS.— Type of Engine Steam Turbine No. of Engines 1 R.P.M. 3600/375 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 bleed steam No and is a non-return or positive shut-off valve fitted — Lubricating Oil.— State means provided for emergency supply 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

GENERATORS.— 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 1 If A.C. state frequency at full load 60/62 cps
Volts per Generator 2300/2370 Amps. per Generator 1237/1215 Have certificates of works tests been supplied No and the results found as per Rule — Ventilation.— State how arranged (open or closed system) Closed system

Are ventilating arrangements satisfactory Yes Heating when Idle.— What provision is made Electric heater located in inner shells of generator. 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 6000/6600 No. of Motors 1 Single or double unit Single Volts per Motor 2300/2370
R.P.M. per Motor 1160 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 No 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 See below If so, state voltage 110 and excitation amperes at full power 75 kilowatts for excitation 75 State excitation arrangements for Propulsion Generators Excitation for both propulsion generators and motor provided by a 75 kW exciter driven by ship's auxiliary turbo. alt. which consists of 400 kW and Propelling Motors alternator, 75 kW exciter and 55 kW D.C. generator Is an alternative means of excitation provided Yes - also auxiliary set one provided at other. Have certificates of works tests been supplied No and found as per Rule —

CONTROL.— Position of Main Control Panel In main engine room at starting platform. Does it comply with the requirements regarding position Yes, grouping of controls Yes, instruments Yes, insulating materials (state type used) appears to be Sudanese type of synthetic insulating material, 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 contactors, etc. (state method employed) Contactors manually operated by means of levers interlocked against simultaneous operation.

Switching 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. Overload and Short Circuit Protection.— State means provided Phase balance relay for protection against phase faults resulting from short circuit between lines or open circuit in one phase. Fault trips excitation breaker.

At what load is it set to operate 25% out of balance Has it been tripped by hand when running at full power and found satisfactory Not tested

Are fuses of an approved type All from American Standard Cartridge type

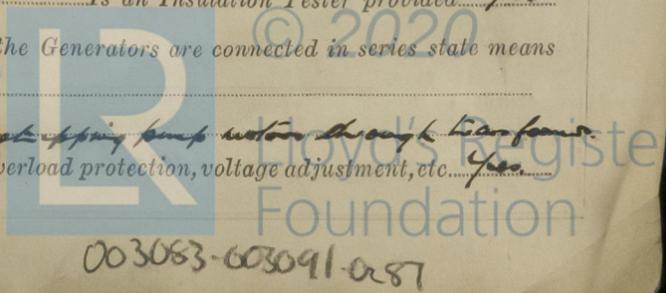
Earth Detection.— Is the main circuit provided with means for detecting earths Yes Are aural and visual alarms fitted Visual Is main power interrupted by an earth fault Yes If a limiting resistance is in the earth detecting circuit what is the ohmic value 670 ohms What earth leakage current is necessary to operate the device max 0.5 amp If a switch is used to disconnect the aural signal does it automatically give visual indication — 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 Temperature indicators (Status + Full)

and for each Motor Volt + Ammeter, speed indicator, Gear Volt + Ammeter, Phase balance relay, Cool relay, Amp indicator, Field + Line Volt + Ammeter, Revolution indicator, HP meter. 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 - for driving cargo or stopping pump water through transfer. If so, is provision made for overload protection, voltage adjustment, etc. Yes



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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. Indicator only.*

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.....

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* *No list of spare gear available, owner representative states a large amount of spares is provided but not yet listed, but appears to be adequate.* Are they stored as per Rule *Yes*

ELECTRIC PROPULSION EQUIPMENT CONDUCTORS.

DESCRIPTION	CONDUCTORS.		TOTAL MAXIMUM CURRENT—AMPERES.*			MAXIMUM VOLTAGE TO EARTH.	INSULATED WITH.	DI-ELECTRIC THICKNESS.	HOW PROTECTED.
	No. per Pole.	Nominal Area per Pole.	In Circuit.		Rule.				
			When Running.	When Manoeuvring.					
MAIN GENERATORS	2	3,000,000	1315		1708	2300	V. C.		
GENERATOR FIELDS	1	500,000	165	375 RPM.	444	110	"	L. C. A.	
MAIN MOTORS	2	3,000,000	1160		1708	2300	"		
MOTOR FIELDS	1	500,000	NORMAL 400 MAX 420		444	110	"		
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 *Generally similar to other T2 Tankers* If so, state name of vessel *"Hercules" "Hibaldus" "El. Moore"*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Electrical Propulsion equipment of this vessel appear to have been installed in accordance with American practice and the typical plans of T2 Tanker. The details in this report were obtained from plans and instruction booklets on board and from personal observation. The machinery was examined and tested under working conditions and found satisfactory. The equipment appears to be in good and efficient condition & whilst not strictly in accordance with the Society's Rules, it is, in my opinion, eligible for classification.*

Noted. sent 19/2/48.

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

The amount of Entry Fee £ 40 : 0 : 0
 Travelling Expenses (if any) £ : :
 When applied for, 19.....
 When received, 19.....

L. Staffor
 Surveyor to Lloyd's Register of Shipping.

Date LIVERPOOL - 6 JAN 1948

Committee's Minute *See Minute on Machinery Report.*

