

REPORT ON ELECTRIC PROPELLING MACHINERY.

No. 126380

Date of writing Report 16.12.47 When handed in at Local Office 19 Port of Liverpool Received at London Office 17.1.1948
 No. in Survey held at 37910 on Twin Triple Screw vessel "TRESUS" ex "LAUREL HILL". Reg. Book. Date, First Survey 19 Last Survey 19 No. of Visits 19
 Built at Portland Or. By whom built Kaiser Co. Inc. Yard No. When built 1944
 Electrical Machines made at Schenck By whom made General Electric Co. Generator Nos. 5727844 Motor Nos. 5690833 When made 1944
 Shaft Horse Power at Full Power 6000/6600 Total Capacity of Generators 4925/5400 Kilowatts
 Machinery Numeral as per Rule 1058 Owners Anglo-Saxon Petroleum 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. *Typical plans of 12 Tanks approved*

STEAM ENGINES.— Type of Engine *Steam Turbine* No. of Engines *one* R.P.M. *3600/1875* 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 *Yes* Is provision made for bleed steam *No* and is a non-return or positive shut-off valve fitted *Yes* 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*

OIL 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 cycles* Kw. per Generator *4925/5400* 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 system* Are ventilating arrangements satisfactory *Yes* Heating when Idle.— What provision is made *Electric heating located within inner shields 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 *1160* No. of Motors *one* Single or double unit *Single* Volts per Motor *300/2370* Amps. 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 *390 kilowatts for excitation 75* State excitation arrangements for Propulsion Generators *Excitation for both propulsion generators and motor provided by 75KW exciter driven by ship's auxiliary turbo-set which consists of 400KW Alternator, and Propelling Motors 75KW exciter and 55KW D.C. Generator* Is an alternative means of excitation provided *Yes. Two aux. sets provided as above* Have certificates of works tests been supplied *No* and found as per Rule *—*

CONTROL.— Position of Main Control Panel *In main engine room at steering platform* Does it comply with the requirements regarding position *Yes*, grouping of controls *Yes*, instruments *Yes*, insulating materials (state type used) *As per S.S. Standard 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 controllers, etc. (state method employed) *Controllers manually operated by means of levers & interlocked against incorrect operation*

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 *Phase balance relay for protection against phase faults resulting from short circuit between phases or open circuit in one phase. Fault trips excitation breaker*

At what load is it set to operate *25% out of balance* as it been tripped by hand when running at full power and found satisfactory *Not listed* Are fuses of an approved type *All fuses are American Standard Cartridge Type*

Earth Detection.— Is the main circuit provided with means for detecting earths *Yes* Are aural and visual alarms fitted *Usual* 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. 2.5 Amps* 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 *Stator Field Amp. indicators*

Volts - Ammeter, speed indicator, Gen. Volt - Ammeter Phase balance relay, Excit. relay and for each Motor *Temp. Indicator Field Amp. Volt - Ammeter, Revolution Indicator, H.P. 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 emergency cargo stopping pump motor through transformer* If so, is provision made for overload protection, voltage adjustment, etc. *Yes*

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 — Are they installed as per Rule — Have they been tested under working conditions and do they give the required number of starts — 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 *a large amount of spare gear, which appears to be adequate, is on board but not yet listed*

ELECTRIC PROPULSION EQUIPMENT CONDUCTORS.

ELECTRIC PROPULSION EQUIPMENT									
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.					
		<i>CIR. MILS</i>			<i>AMERICAN LARING</i>				
MAIN GENERATORS	2	3,000,000	1315 ✓		1708	2300	V-C	-	
GENERATOR FIELDS	1	500,000	165.375 Am.		444	110	"	-	
MAIN MOTORS	2	3,000,000	1160 ✓		1708	2300	"	"	
MOTOR FIELDS	1	500,000	400/420		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 "Helaman", "Trichaler", "El. Morro"

General Remarks (State quality of workmanship, opinions as to class, &c.) The Electrical Propulsion Equipment of this vessel appears to have been installed in accordance with American practice and the typical plans of T2 Tankers. The details in this report were obtained from plans and instruction booklets on board & 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.

The amount of Entry Fee £ 440 : 0 : 0
(Post Classification L.M.C. fee)

Travelling Expenses (if any) £ :

When applied for, 2 JAN 1948
When received, 19

Surveyor to Lloyd's Register of Shipping.

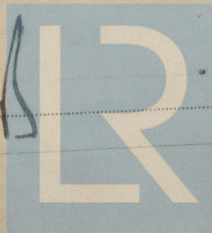
Date

LIVERPOOL

- 6 JAN 1948

Committee's Minute

See Minutes or Machinery Report



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