

# REPORT ON ELECTRIC PROPELLING MACHINERY.

No. 17218

Date of writing Report 14/2 1950 When handed in at Local Office 16/2 1950 Port of Amsterdam Received at London Office 22 FEB 1950

No. in Survey held at Amsterdam Date, First Survey 12-1-'50 19 Last Survey 25-1-'50 19  
Reg. Book. No. of Visits 4

10848 Single on Twin Triple Quadruple Screw vessel Gladys Moller Tons Gross 10712 Net 6400

Built at Chester Pa By whom built Sun. S. B. & Dryd Co Yard No. 476 When built 1945

Electrical Machines made at Meantte Pa USA whom made Elliot Company Generator Nos. 25030 When made 1945  
Motor Nos. 3365 Frame 90-159-36

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

Machinery Numeral as per Rule 1485 Owners Moller Line 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 T2 Tankers approved

STEAM ENGINES.— Type of Engine Steam turbine No. of Engines 9832 R.P.M. 3715 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 Yes and is a non-return or positive shut-off valve fitted Yes Lubricating Oil.— State means provided for emergency supply Gravity system 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 61.9 cycles/sec 3/4/50 Kw. per Generator 5400 Volts per Generator 2300/4000 Amps. per Generator 700/1350 per line 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 heaters (2) located in bottom Facilities for Inspection and Repair.— Are these as per Rule yes

MOTORS.— S.H.P. per Motor at full power 6600 No. of Motors 3365 Fr. 90-159-36 Single or double unit single Volts per Motor 4000/2300 Amps. per Motor 795/1290 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 yes 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 — If so, state voltage 115 and excitation amperes at full power motor 405 watts for excitation 75 State excitation arrangements for Propulsion Generators Excitation for both propulsion generator and motor provided by a 75 kW exciter driven by aux. turbine set which permits of 400 kW alternator; 75 kW exciter and and Propelling Motors 56 kW 9.c. generator Is an alternative means of excitation provided yes two aux sets are provided Have certificates of works tests been supplied no and found as per Rule —

CONTROL.— Position of Main Control Panel E.R. Starting platform Does it comply with the requirements regarding position yes, grouping of controls yes, instruments yes, insulating materials (state type used) Synchro type, 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 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. Overload and Short Circuit Protection.— State means provided Phase balance relay for protection against phase faults resulting from short circuit between phases & open circuit in one phase. Fault trips excitation breaker At what load is it set to operate 15% of balance current Is it tripped by hand when running at full power and found satisfactory not tested

Are fuses of an approved type All fuses are of American Standard cartridge type Earth Detection.— Is the main circuit provided with means for detecting earths yes Are aural and visual alarms fitted minimal's main power interrupted by an earth fault yes If a limiting resistance is in the earth detecting circuit what is the ohmic value 670 ohm What earth leakage current is necessary to operate the device 0.5-2.5 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 Temp Indicator (Motor & Field)

Field Volt & ammeter Speed indicator Gen Volt & ammeter Phase balance relay Earth relay and for each Motor Temp Indicator, Field line Volt & ammeter, Revolution 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 for cargo and stripping pump motors 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 Cambrie 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 yes Is a list of the articles supplied attached to this report yes 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	3	3,000,000	780	—	1708	4000	V.C.	—	h.l.d.
GENERATOR FIELDS	1	500,000	146	—	444	125	"	—	"
MAIN MOTORS	3	2,000,000	770	—	1708	4000	"	—	"
MOTOR FIELDS	1	500,000	146	—	444	125	"	—	"
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 T-2 Tankers If so, state name of vessel —

General Remarks (State quality of workmanship, opinions as to class, &c.) The electrical propulsion equipment of this vessel appears to be installed in accordance with American practice and the typical plans of T-2 Tankers. The details of this report were obtained from these plans and instruction booklet on board and from personal observation. The equipment was examined, megger tested and tested out under working conditions and found satisfactory. The equipment appears in good condition and whilst not strictly in accordance with the Society's Rules, it is, in my opinion, eligible for classification.

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

The amount of Entry Fee ... f.200.- : When applied for, 20.2.1950  
 Travelling Expenses (if any) : : When received, —  
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H. V. D. SLUIS  
 Surveyor to Lloyd's Register of Shipping.

Date 14 APR 1950

Committee's Minute