

pt. 4d.

# REPORT ON ELECTRIC PROPELLING MACHINERY.

No. 5029

Date of writing Report 5th Oct. 19 48 When handed in at Local Office 5th Oct 19 48 Port of Galveston, Texas  
 No. in Survey held at Galveston, Texas Date, First Survey 14th August 19 48 Last Survey 4th Sept., 19 48  
 Reg. Book. 59561 Single Screw vessel S/S "FRANCINE GLORE" Tons Gross 10634 Net 6299  
 Built at Portland, Oregon By whom built Kaiser Co., Inc. Yard No. 74 When built 1944-7  
 Electrical Machines made at Lynn, Mass. By whom made General Electric Co. Generator Nos. - Motor Nos. - When made 1944  
 Shaft Horse Power at Full Power 6000 Total Capacity of Generators 4925/5400 kilowatts  
 Machinery Numeral as per Rule 1425 Owners British Oil Shipping Co., Ltd. Port belonging to London  
 Trade for which Vessel is intended Petroleum in bulk

Received at London Office 12 JAN 1949

PLANS.— Have plans of the Machines/Control Gear, Cables and Circuits been submitted and approved. ABS approved A.I.E.E. Standards

TEAM ENGINES.— Type of Engine Curtis Impulse Turbine No. of Engines One R.P.M. 3600/3715 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 No Is provision made for bleed steam Yes and is a non-return or positive shut-off valve fitted Yes Lubricating Oil.— State means provided for emergency supply Storage tanks and ele driven 60 GPM Rotex 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

IL 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 AC No. of Generators One If A.C. state frequency at full load 60 Kw. per Generator 4925/5400 Volts per Generator 2300/2370 Amps. per Generator 1237/1315 Have certificates of works tests been supplied ABS and the results found as per Rule AIEE Standards Ventilation.— State how arranged (open or closed system) Closed system with surface air cooler Are ventilating arrangements satisfactory Yes Heating when Idle.— What provision is made One heater at each end 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 No. of Motors One Single or double unit Single Volts per Motor 2300 Amps. per Motor 1160 Have certificates of works tests been supplied ABS and the results found as per Rule AIEE A.C. Motors.— Is provision made for machining the slip rings Yes 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 -

EXCITATION.— Is power for excitation taken from the ship's Auxiliary Generators Yes If so, state voltage 110 and excitation amperes at full power 555 kilowatts for excitation 150 State excitation arrangements for Propulsion Generators Normally controlled by a voltage regulator also by a manually operated rheostat in event of the regulator becoming inoperative. No overload or short circuit protection provided. and Propelling Motors From same source as generators Is an alternative means of excitation provided Two 75 kws. units Have certificates of works tests been supplied ABS and found as per Rule AIEE

CONTROL.— Position of Main Control Panel In engine room, thwartship on generator flat level Does it comply with the requirements regarding position Yes, grouping of controls Yes, instruments Yes, insulating materials (state type used) Ebony asbestos & AIEE approved materials, spacing and shielding of live parts AIEE, 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) Manual operation have propulsion contractors, overall load trouble feature protected by relays which act upon field circuits of main propulsion generator. 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 By relay control of exciter current to main generator.

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 AIEE standard renewable type. To be replaced (see Rpt. 13).

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 Removes excitation if a limiting resistance is in the earth detecting circuit what is the ohmic value 67 ohms. What earth leakage current is necessary to operate the device .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 No 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 Field tempt.: Stator tempt.: excitation voltmeter; AC voltmeter; field ammeter; AC ammeter; turbine RPM indicator; phase balance relay and ground protection relay

and for each Motor stator tempt.; excitation voltmeter; HP meter; field ammeter; Is an Insulation Tester provided Yes AC ammeter & shaft RPM indicator

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



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

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 AIEE Have all Cables been tested at the makers' works... AIEE

SECONDARY BATTERIES.—Are Batteries used for starting Main Propulsion Engines... - 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... No Are they stored as per Rule... Yes

**ELECTRIC PROPULSION EQUIPMENT CONDUCTORS.**

DESCRIPTION	CONDUCTORS.		TOTAL MAXIMUM CURRENT—AMPERES.*		AIEE Rule.	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	2.3562	1315		2120	2300	V.C.	10/64"	Bronze Tape
GENERATOR FIELDS	1	.3922	165		529	110	V.C.	6/64"	L.C. & Basket We Armoured
MAIN MOTORS	2	2.3562	1160		2120	2300	V.C.	10/64"	Bronze Tape
MOTOR FIELDS	1	.3922	390		529	110	V.C.	6/64"	L.C. & Basket We Armoured
CONTROL CIRCUITS	1	.0051	-		30	-	V.C.	4/64"	" " "
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... Yes

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

Builders' Signature.

Date

Is this machinery duplicate of a previous case... Yes If so, state name of vessel... T2 Type Tankers

General Remarks (State quality of workmanship, opinions as to class, &c.) The electrical installation to the requirements of the American Bureau of Shipping has been in operation since July 1944: the installation is in accordance with A.I.E.E. standards and generally in accordance with the Rules, except as noted in this report and as listed below:—

- (1) No overload or short circuit protection is provided on main propulsion unit.
- (2) Main propulsion cables have no lead alloy sheath as required by the Rules.

The dimensions in this report have been taken from the approved plans for this type of vessel, have been checked, as far as possible on the ship and found correct. The materials and workmanship are good and the installation has been examined under working conditions and found satisfactory.

In my opinion the electrical installation is such as could be accepted by the Committee for Classification.

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

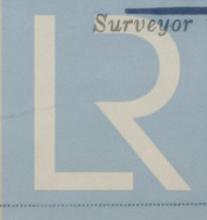
Date

NEW YORK DEC 22 1948

Committee's Minute

See First Entry Report Attached

*James L. Dudley*  
 Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

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