

REPORT ON ELECTRIC PROPELLING MACHINERY.

No. 8661

Writing Report 23rd June 1948 When handed in at Local Office 28th June 1948 Received at London Office 5 JUL 1948
Port of Baltimore, Maryland
Date, First Survey 17th May, 1948 Last Survey 6th June, 1948
No. of Visits 3
Screw vessel "ZANGUEZOUR" (ex "FORT WOOD")
Tons Gross 10448 Net 6301
at Portland, Oregon By whom built Kaiser Company, Inc. Yard No. 92 When built 1944
By whom made General Electric Corp. (Generator Nos. 5840750, Motor Nos. 6037854) When made 1944
Horse Power at Full Power 6,000 Total Capacity of Generators 5400 kilowatts
Machinery Numeral as per Rule 1324 Owners Les Petroles D'Outre-mer Port belonging to Le Havre
for which Vessel is intended Petroleum in bulk.

S. Have plans of the Machines, Control Gear, Cables and Circuits been submitted and approved American Bureau of Shipping

M ENGINES.— Type of Engine Curtis Impulse 10-Stage No. of Engines 1 R.P.M. 3600 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 Yes If emergency steam is admitted, is an automatic shut-off fitted Is provision made for bleed steam and is a non-return or positive off valve fitted Lubricating Oil.— State means provided for emergency supply 1 Var. Rotary Elec. Driven 60 G.P.M. 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

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 1 If A.C. state frequency at full load 60/62 Cyc. per second per Generator 4925/5400 Volts per Generator 2300/2370 Amps. per Generator 1237/1315 Have certificates of works tests been supplied and the results found as per Rule A.I.E.E. Ventilation.— State how arranged (open or closed system) Closed — Surface cooler Are ventilating arrangements satisfactory Yes Heating when Idle.— What provision is made One heater at each of generator Facilities for Inspection and Repair.— Are these as per Rule Yes

own gauges supplied No Bilges.— Are the arrangements to prevent accumulation of bilge-water under the machines satisfactory Yes
per Motor at full power 6000 No. of Motors One Single or double unit Single Volts per Motor 2300
per Motor 1160 Have certificates of works tests been supplied A.I.E.E. and the results found as per Rule Yes A.C. Motors.— Is provision made for lining the slip rings Yes Do the Motors remain in synchronism under all normal conditions of running D.C. Motors.— If the system permits speeding 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 load 555 kilowatts for excitation 150 State excitation arrangements for Propulsion Generators Voltage regulator and manually operated rheostat. No overload or short circuit protection provided.

Propelling Motors Same source as generators Is an alternative means of excitation provided 2-75KV exciter generators with transfer switch.
certificates of works tests been supplied A.I.E.E. and found as per Rule

CONTROL.— Position of Main Control Panel Engine room first grating level.
Does it comply with the requirements regarding position Yes, grouping of controls Yes, instruments Yes, insulating materials (state type) A.I.E.E. approved materials & ebony asbestos, spacing and shielding of live parts A.I.E.E., 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) No provision for manual operation on magnetically operated contractors.

Is the wiring 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 None.

At what load is it set to operate Has it been tripped by hand when running at full power and found satisfactory
Are the fuses of an approved type Yes

Earth Detection.— Is the main circuit provided with means for detecting earths Yes Are aural and visual alarms fitted No Is main power interrupted on earth fault removal of a limiting resistance is in the earth detecting circuit what is the ohmic value 67 What earth leakage current is necessary to operate the device 5 Ampere If a switch is used to disconnect the aural signal does it automatically give visual indication Are the alarm 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 overloads in excess of the working capacity of the part 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 from the deck control

Instruments and Gauges.— State Instruments provided for each Generator Field Temp., Stator Temp., Excitation meter, AC voltmeter, field ammeter, AC ammeter, Phase balance relay, ground protection relay, turbine RPM indicator, Stator temp., excitation voltmeter, HP meter, Field ammeter, AC ammeter, Is an Insulation Tester provided

Travelling or Stationary Control.— Are all shunt field circuits protected as per Rule Yes D.C. Systems.— If the Generators are connected in series state means for reversal of direction of rotation of the Prime Movers

Committee Assigned Generators also used alternately 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 A.I.E.E. 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 sealed..... Yes... Are all Cables carrying A.C. constructed and installed as per Rule A.I.E.E. Have all Cables been tested at the makers' works..... A.I.E.E. S

SECONDARY BATTERIES.—Are Batteries used for starting Main Propulsion Engines..... - If so, have full particulars of rating been and approved..... - Have they been tested under working conditions and do they give the required number of starts..... - Are they 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..... - 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.*		MAXIMUM VOLTAGE TO EARTH.	INSULATED WITH	DI-ELECTRIC THICKNESS.	HOW PROTECTED
	No. per Pole.	Nominal Area per Pole.	When Running	When Stopped				
MAIN GENERATORS	2	2.3562	1315		2120	2300	V.V.	10/64" Bronze tape
GENERATOR FIELDS	1	.3922	165		529	110	V.C.	6/64" LC & Basket
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" LC & Basket
CONTROL CIRCUITS From Prop Panel	1	.0051	-		30	-	V.C.	4/64" " " "
OTHER CIRCUITS: See Rpt. #13								

*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 directed in the Rules..... 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..... - If so, state name of vessel.....

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 1944. The available plans have been examined and found to be in accordance with A.I.E.E. Standards and generally in accordance with the Rules excepting as noted and listed below. No overload or short circuit protection is provided on main propulsion units. Main propulsion cables have no lead alloy sheath as per Rule Requirements.

The dimensions in this report have been taken from the approved plans for this type vessel and have been checked on the ship as far as possible and found correct.

The materials and workmanship are good. The installation has been examined under working conditions and found to be satisfactory.

The electrical installation appears worthy for favourable consideration by the Committee for Classification

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

The amount of Entry Fee ... £ \$350.00 : When applied for, 28 June, 19 48
 Travelling Expenses (if any) £ - : : When received, - 19

NEW YORK JUN 30 1948

Date

Committee's Minute

Classification contemplated



Surveyor to Lloyd's Register

Lloyd's Register Foundation