

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

3 JUL 1947

Date of writing Report 23rd May, 1947 When handed in at Local Office 28th May, 1947 Port of Baltimore, Maryland
 No. in Survey held at Baltimore, Maryland Date, First Survey April 1st, 1947 Last Survey May 2nd, 1947
 Reg. Book. 75946 on the S.S. "CAPTAIN FARMAKIDES" (ex "James M. Goodhue") Tons { Gross 7176
 Net 4380
 Built at Los Angeles, California By whom built California S.B. Corp. Yard No. 152 When built 1943
 Owners Messrs. Rethymnis and Kulukundis Port belonging to Panama
 Electric Light Installation fitted by California Shipbuilding Corp. Contract No. - When fitted 1943
 Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two-wire Direct Current

Pressure of supply for Lighting 120 volts, Heating - volts, Power 120 volts.

Direct or Alternating Current, Lighting Direct Power Direct

If alternating current system, state frequency of periods per second -

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding temperature rise A.I.E.E. Standards 40° C. Rise, are they compound wound Yes
 are they over compounded 5 per cent. No, if not compound wound state distance between each generator -

Where more than one generator is fitted are they arranged to run in parallel Yes, is an adjustable regulating resistance fitted in series with each shunt field Yes

Have certificates of test results for machines under 100 kw. been submitted and approved - Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -

Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

Position of Generators In engine room first grating level starboard side, is the ventilation in way of the generators satisfactory Yes are they clear of all inflammable material Yes if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the generators - and -, are the generators protected from mechanical injury and damage from water, steam or oil Yes, are their axes of rotation fore and aft Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generators in metallic contact Yes Main Switch Boards, where placed In engine room on generator flat.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard -

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards - and -, are they constructed wholly of durable, non-ignitable non-absorbent

materials Ebony Asbestos, is all insulation of high dielectric strength and of permanently high insulation resistance Yes, is it of an approved type Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other

non-hygroscopic insulating material, and the slab similarly insulated from its framework -, is the non-hygroscopic insulating material of an approved type Yes, and is the frame effectively earthed Yes Are the fittings as per Rule regarding:—spacing or shielding of live parts

A.I.E.E. Standards, accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp on same fuses, are moving parts of switches alive in the

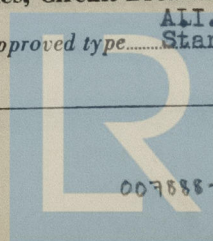
"off" position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of switches No Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

Each generator: 175 amp. D.P. breaker with overload and reverse current trips and a three pole isolating switch. Outgoing circuits: D.P. linked switches and fuses.

Are turbine driven generators fitted with emergency trip switch as per rule - Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes Instruments on main switchboard 3 ammeters 3 volt-

meters - synchronizing device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equalizer connection Yes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

Earth lamps also voltmeter selector switch wired to give ground readings Yes Switches, Circuit Breakers and Fusible Cut-outs, A.I.E.E. Standards, do these comply with the requirements of the Rules Standards are the fusible cutouts of an approved type Standards have the reversed



current protection devices been tested under working conditions. Yes Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per Rule A.I.E.E. Standards

Cables: Single, twin, ~~three~~ or multicore. Yes are the cables insulated and protected as per Tables IV, V, X or XI of the Rules A.I.E.E. Standards

If the cables are insulated otherwise than as per Rule, are they of an approved type Yes Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 3 Volts

Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes Paper Insulated and Varnished Cambric Insulated Cables.

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes, or waterproof insulating tape Yes Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage Yes Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit Lead Covered

Support and Protection of Cables, state how the cables are supported and protected Clipped to steel supports in accommodation and holes, protected by sheet metal guards in hold spaces.

If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screws of brass Yes, are the cables run in separate grooves Yes If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII A.I.E.E. Standards

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements Yes

Joints in Cables, state if any, and how made, insulated, and protected In junction boxes.

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the cables all armoured state the material of which the bushes are made Yes

Earthing Connections, state what earthing connections are fitted and their respective sectional areas Cables effectively earthed.

are their connections made as per Rule Yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes Emergency Supply, state position and method of control of the emergency supply and how the generator is driven Yes

Navigation Lamps, are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole No A.I.E.E. Standards are the switches and fuses grouped in a position accessible only to the officers on watch In wheelhouse

has each navigation lamp an automatic indicator as per Rule Yes Secondary Batteries, are they constructed and fitted as per Rule Yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected Cast metal guards

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Yes how are the cables led Yes

where are the controlling switches situated Yes

are all fittings suitably ventilated Yes, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials Yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule Yes, are air heaters constructed and fitted as per Rule Yes

Searchlight Lamps, No. of One, whether fixed or portable Yes, are their fittings as per Rule Yes

Are Lamps, other than searchlight lamps, No. of Yes, are their live parts insulated from the frame or case Yes, are their fittings as per Rule Yes

Motors, are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes

are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes

are they protected from mechanical injury and damage from water, steam or oil Yes where possible, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type Drip proof

if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes and Yes

have machines of over 100 BPH been inspected by the Surveyors during manufacture and testing Yes Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule A.I.E.E. Standards

Ships carrying Oil having a Flash Point less than 150°F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead-of cables, lights and fittings Yes

are all fuses of the filled cartridge type Yes are they of an approved type Yes

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office Yes

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule Yes

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	3	20	120	167	400	Steam Reciprocating	-	-
AUXILIARY ...								
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	AMPERES. A.I.E.E. Rule.			
MAIN GENERATOR ...	1	.1969	37	.082	167	233 ✓	50	Rubber	L.C. and Basket-weave armoured
EQUALISER CONNECTIONS ...									
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER (MOTOR GENERATOR) ...									
ENGINE ROOM ...									
BOILER ROOM ...	1	.0521	7	.097	58	74 ✓	40	"	"
AUXILIARY SWITCHBOARDS ...									
Salinity Ind. ...	1	.002	-	-	1	10 ✓	80	"	"
ACCOMMODATION ...	1	.0521	7	.097	48	74 ✓	150	"	"
Aft. Accommod. ...	1	.0521	7	.097	25	74 ✓	440	"	"
Boat Deck Accom. ...	1	.0829	19	.074	48	100 ✓	190	"	"
Wheelhouse ...	1	.020	7	.061	16	41 ✓	240	"	"
Gyro Compass ...	1	.013	7	.048	15	41 ✓	200	V.C.	"
WIRELESS ...	1	.020	7	.061	22	41 ✓	290	Rubber	"
SEARCHLIGHT ...	1	.008	7	.038	5	23 ✓	420	"	"
MASTHEAD LIGHT ...	1	.0032	7	.024	.42	11.5 ✓	440	"	"
SIDE LIGHTS ...	1	.0032	7	.024	.42	11.5 ✓	110	"	"
COMPASS LIGHTS ...									
Bridge Deck ...	1	.0829	19	.074	50	100 ✓	200	"	"
Forward ...	1	.0521	7	.097	25	74 ✓	420	"	"
Midships ...	1	.0829	19	.074	57	100 ✓	190	"	"
Aft ...	1	.0521	7	.097	23	74 ✓	270	"	"

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
		No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	AMPERES. A.I.E.E. Rule.			
BALLAST PUMP ...										
MAIN BILGE LINE PUMPS ...										
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...										
SANITARY PUMP ...										
CIRC. SEA WATER PUMPS ...										
CIRC. FRESH WATER PUMPS ...										
AIR COMPRESSOR ...										
FRESH WATER PUMP ...										
ENGINE TURNING GEAR ...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...										
OIL FUEL TRANSFER PUMP ...										
WINDLASS ...										
WINCHES, FORWARD ...										
WINCHES, AFT ...										
STEERING GEAR—										
(a) MOTOR GENERATOR ...										
(b) MAIN MOTOR ...										
WORKSHOP MOTOR ...										
VENTILATING FANS ...										
Refrig. Comp. ...	1	1	.0658	19	.066	59	87 ✓	200	Rubber	L.C. and Basket-weave armoured

x American Institute of Electrical Engineers, Current rating for two and three conductor cables, Table No. 9

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All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Electrical Engineers.

Date.....

COMPASSES.

Distance between electric generators or motors and standard compass..... 26 feet

Distance between electric generators or motors and steering compass..... 26 feet

The nearest cables to the compasses are as follows:—

A cable carrying..... 2 Ampères..... 75 feet from standard compass..... 75 feet from steering compass.

A cable carrying..... 1 Ampères..... 4 feet from standard compass..... 7 feet from steering compass.

A cable carrying..... Ampères..... feet from standard compass..... feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power..... Yes

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted..... Yes

The maximum deviation due to electric currents was found to be..... Nil degrees on..... any course in the case of the standard compass, and..... Nil degrees on..... any course in the case of the steering compass.

Builder's Signature.

Date.....

Is this installation a 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 1943. The plans attached have been examined and found in accordance with A.I.E.E. Marine Standards and generally in accordance with the Rules. The materials and workmanship are good and the installation has been examined under working conditions and found to be satisfactory, except the main generator equalizer connections are below Rule size. The dimensions in this report have been taken from the A.B.S. approved plans. These dimensions have been checked as far as possible on the ship and found correct.

In my opinion the electrical installation is such as could be accepted by the Committee for Classification; subject to the main generator equalizer connections being increased to meet Rule requirements.

Total Capacity of Generators..... 60 Kilowatts.

The amount of Fee £ 100.00 { When applied for, 28 May, 47
When received, 19.....
Traveling Expenses (if any) £ : 5.25 {

Surveyor to Lloyd's Register of Shipping.

Committee's Minute.....

Assigned Elec. light