

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

20 JUL 1946

Date of writing Report 19 July 1946

When handed in at Local Office 19 July 1946

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No. in Survey held at CARDIFF

Port of CARDIFF

Date, First Survey 31 May Last Survey 16 July 1946

Reg. Book

70639 on the M.V. "LUCIA 2" ex "CHANT 52"

Gross Tons

Built at HAVERTON HILL ON TEES. By whom built FURNESS S.B. CO. LTD. Yard No. - When built 1944

Owners COMPANIA DE NAVEGACION LUCIA S.A. Port belonging to PANAMA CITY.

Electric Light Installation fitted by Contract No. When fitted

Is the Vessel fitted for carrying Petroleum in bulk Yes ☒

System of Distribution Two wire looping system

Pressure of supply for Lighting 110 volts, Heating - volts, Power 110 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 - are they compound wound yes

are they over compounded 5 per cent. - , if not compound wound state distance between each generator -

Where more than one generator is fitted are they arranged to run in parallel No. - , 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 no. 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 Port side engine room No.1 aft. No.2 forward , 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 Port side engine room forward & aft near generators.

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 yes , 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 yes , 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

yes , accessibility of all parts yes , absence of fuses on back of board yes , temperature rise of

omnibus bars - , individual fuses to voltmeter, pilot or earth lamp yes , 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

No.1 generator:- 1-60 AMP D.P.knife switch and main fuses, sub circuit 4-15A D.P.knife switches & fuses

No.2 generator:- 1-100AMP D.P.knife switch & main fuses sub circuit 4-10A D.P. tumbler switches & fuses

Ventilating fan system and 1-100AMP D.P.knife switches & fuses sub circuits 5-30A D.P.knife

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 Instruments on main switchboard Two ammeters Two

synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

Earth Lamps. Switches, Circuit Breakers and Fusible Out-outs

do these comply with the requirements of the Rules yes are the fusible cutouts of an approved type yes 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 **Yes** **Cables:** Single, thin, concentric, or multi-core **Single** are the cables insulated and protected as per Tables IV, V, X or XI of the Rules **Yes** If the cables are insulated otherwise than as per Rule, are they of an approved type **Yes** **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 trays.** 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 **Yes** **Refrigerated Chambers,** are the cables and fittings in accordance with the special requirements **none** **Joints in Cables,** state if any, and how made, insulated, and protected **none** **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 holes efficiently bushed **yes** state the material of which the bushes are made **Lead & brass glands.** **Earthing Connections,** state what earthing connections are fitted and their respective sectional areas **7/.029 between earth lamps & panel** are their connections made as per Rule **Yes** **Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule **none** **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 **yes** are the switches and fuses grouped in a position accessible only to the officers on watch **yes, in wheelhouse** has each navigation lamp an automatic indicator as per Rule **yes** **Secondary Batteries,** are they constructed and fitted as per Rule **none** **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 **no** are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **no** 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 **Yes** whether fixed or portable **Yes** are their fittings as per Rule **Yes** **Arc 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** are their axes of rotation fore and aft **yes** 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 **Yes** if not of this type, state distance of the combustible material horizontally or vertically above the motors **Yes** **Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule **Yes** **Lighting Conductors,** where lighting conductors are required, are these fitted as per Rule **Yes** **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 fitted 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 **coasting services.**

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts	Horsepower	Volts	Revs. per Min.		Engine	Light	Oil
MAIN	2	6 & 7.5	110	54.5 & 1200	1000	Internal Combustion	Engines		
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.	Rule.			
MAIN GENERATOR No. 1	1	.0225	7	.064	-	75	50	Paper & varnished cambric	IC. A. & B.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR No. 2	1	.0225	7	.064	-	75	40	"	Lead covered
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR									
ENGINE ROOM	2	3/029			5		60	"	Lead covered & armoured
BOILER ROOM									
AUXILIARY SWITCHBOARDS	1	.0225	7	.064			60	"	IC. A. & B. braded
ACCOMMODATION									
Fuse board No. 1	2	.0070	7	.036	22	28	64	"	Lead covered
	2	.0070	7	.036	6	28	52	"	"
	3	.0070	7	.036	14	28	70	"	"
	4	.0045	7	.029	7	15	68	"	"
WIRELESS	2	.0045	7	.029	-		84	"	IC. & Armoured
SEARCHLIGHT									
MASTHEAD LIGHT	2	.0020	3	.029	1/2	5	120	V.I.R.	3/4 conduit
SIDE LIGHTS	2	.0020	3	.029	1	5	40	"	"
COMPASS LIGHTS	2	.0020	3	.029	1	5	25	"	Lead covered
POOP LIGHTS	2	.0020	3	.029	1/2	5	40	Paper & varnished cambric	IC. & Armoured
CARGO LIGHTS	2	.0020	3	.029	4	5	160	"	"
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return). Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	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 ER	1	2	.0045	7	.029	6.2	15	40	Paper & varnished cambric	Lead covered & armoured.
Pump room	1	2	.0020	3	.029	2.8		100	"	"
Galley blower	1	2	.0020	3	.029	2.8		40	"	"
Saloon	1	2	.0045	7	.029	2.8		140	"	"
Accommodation	1	2	.0045	7	.029	5.4		120	"	"
Crews Mess	1	2	.0045	7	.029	5.4		100	"	"
Galley vent.	1	2	.0045	7	.029	5.4		60	"	"
Crews Bathroom	1	2	.0045	7	.029	2.		150	"	"

PARTICULARS OF GENERATING PLANT
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

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

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

A cable carrying Ampères feet from standard compass 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.

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

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

For the information of the Committee.

MOTOR CONDUCTORS									
DESCRIPTION	No. of Motors	No. per Total	Total	COMPOSITION OF		TOTAL MAXIMUM CURRENT		In Circuit	Ampères (Lead and Return)
				No.	Diameter	No.	Diameter		
WINDMILL PUMP	1	1	1	1	0.0045	1	0.0045	1	0.0045
MAIN BRIDGE LAMP PUMP	1	1	1	1	0.0045	1	0.0045	1	0.0045
GENERAL SERVICE PUMP	1	1	1	1	0.0045	1	0.0045	1	0.0045
EMERGENCY BRIDGE PUMP	1	1	1	1	0.0045	1	0.0045	1	0.0045
SAFETY PUMP	1	1	1	1	0.0045	1	0.0045	1	0.0045
CIRC. SEA WATER PUMPS	1	1	1	1	0.0045	1	0.0045	1	0.0045
CIRC. FRESH WATER PUMPS	1	1	1	1	0.0045	1	0.0045	1	0.0045
AIR COMPRESSOR	1	1	1	1	0.0045	1	0.0045	1	0.0045
FRESH WATER PUMP	1	1	1	1	0.0045	1	0.0045	1	0.0045
ENGINE TURNING GEAR	1	1	1	1	0.0045	1	0.0045	1	0.0045
ENGINE REVERSING GEAR	1	1	1	1	0.0045	1	0.0045	1	0.0045
LUBRICATING OIL PUMPS	1	1	1	1	0.0045	1	0.0045	1	0.0045
OFF TUB. TANKS PUMP	1	1	1	1	0.0045	1	0.0045	1	0.0045
WINDMILL	1	1	1	1	0.0045	1	0.0045	1	0.0045
WINDMILL FORWARD	1	1	1	1	0.0045	1	0.0045	1	0.0045
WINDMILL AFT	1	1	1	1	0.0045	1	0.0045	1	0.0045

Total Capacity of Generators 13.5 Kilowatts.

The amount of Fee ... £ : : When applied for, 19

When received, 19

Travelling Expenses (if any) £

Committee's Minute

Assigned

2m 5.34.—Transfer.

20 SEP 1946

See for made

Surveyor to Lloyd's Register of Shipping.

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