

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

WED. APR. 9 1924

Date of writing Report

19

When handed in at Local Office

8 APR 1924

Port of LIVERPOOL

No. in Survey held at

BIRKENHEAD.

Date, First Survey

24 Jan/24 Last Survey 1st April 1924

Reg. Book.

on the

S.S. LA MAREA

Built at BIRKENHEAD.

By whom built CAMMELL LAIRD & CO. LD.

Yard No. 895

Tons { Gross
Net

When built 1924

Owners UNIFRUIT CO. SS. CO. LD. (CLARK & SERVICE MARS)

Port belonging to GLASGOW.

Electric Light Installation fitted by SUNDERLAND FORGE & ENG CO. LD.

Contract No.

When fitted

System of Distribution

Single wired earth return for E.L. Double wired for Power.

Pressure of supply for Lighting

110

volts, Heating

Nil.

volts, Power

220 110 (aux power only) volts.

Direct or Alternating Current, Lighting

Direct Current

Power

Direct Current

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 overload

Yes.

are they compound wound

110 volt (Compound) 220 " (Shunt in pole)

are they over compounded 5 per cent.

No.

if not compound wound state distance between each generator

11 feet

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.

Are all terminals accessible and clearly marked

Yes.

are they so spaced or shielded that they cannot be accidentally earthed,

or short circuited

Yes.

Are the lubricating arrangements of the generators as per Rule

Yes.

Position of Generators

In engine room.

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

are the generators protected from mechanical injury and damage from water, steam or oil

Yes.

are their axis 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

Switchboard flat aft end of engine room

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

are they constructed wholly of durable, incombustible non-absorbent materials

Yes.

is all insulation of high dielectric strength and of

permanently high insulation resistance

Yes.

if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or micaite and the slab similarly insulated from its framework

Yes.

frame effectively earthed

Yes.

Are the following fittings as per Rule, viz.:— spacing or shielding of live parts

Yes.

accessibility of all parts

Yes.

absence of fuses on back of board

Yes.

proportion of omnibus

bars

Yes.

1

individual fuses to voltmeter, pilot or earth lamp

Yes.

connections of switches

Yes.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

Switches. Double Pole Circuit Breaker for each generator (110 x 220 volt). Single Pole switches and Double Pole fuses for Power and Single Pole switches and single Pole fuses for lighting.

Instruments on main switchboard

9

ammeters

7

volts

synchronising device for paralleling purposes.

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

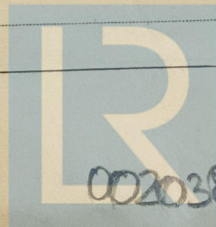
E.L. circuits single wired. Ohmmeter for testing Power circuits.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules

Yes.

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule

Yes.



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Insulation of Cables, state type of cables, single or twin *single* are the cables insulated and protected as per Tables III or IV of the Rules *yes*
Fall of Pressure, state maximum between *any* and any point of the installation under maximum load *4.5 volts*
Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets *yes*

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *no paper insulated cables used*

Cable Runs, are the cables run in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, valves or other hot objects, or to any risk of mechanical damage *yes*

Support and Protection of Cables, state how the cables are supported and protected *Gels. iron clips supporting cables, have armored lead covered & braided cables used in machinery spaces. All other cables lead covered & braided*
If cables are run in enclosed casings, are the casings secured by screws *yes*, are the cap screws of brass *yes*, are the cables run in general grooves *yes*
If armored and lead covered cables are secured by metal clips, are the clips spaced as per Table VI *yes*

Refrigerated Chambers, if light is fitted, are the lights and fittings in accordance with the special requirements *yes*
Joints in Cables, state if any, and how they are insulated and protected *no joints*

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 Positions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *yes* and the material of which the bushes are made *lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *Negative Busbar (110 volts)*
cables to ship's frame with copper tape 2" x 15"
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 *Back deck. Switches and D.P. fuses and battery supply charges from 220 volt supply*

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*

has each navigation lamp an automatic indicator as per Rule *yes*, are separate screens provided for the use of oil and electric side lights *yes*
are separate oil lanterns provided for the mast head lights and side lights *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 *yes, in watertight*
fittings with heavy glass bowl protected by M.C.I. guard
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*

on wood grates and supported by gels iron clips
on main switchboard
where are the controlling switches situated

Searchlight Lamps, No. of *nil*, whether fixed or portable *yes*, are their fittings as per Rule *yes*

Arc Lamps, other than searchlight lamps, No. of *nil*, 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 axis 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 as per Rule *yes*

Lightning Conductors, where lightning 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

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts	Volts	Ampères	Revs. per Min.		Fuel Used	Flash Point of Fuel
MAIN	4 (power)	200	220	910	250	Berol oil engine		
AUXILIARY	1 (big)	25	110	228	650	Paraffin engine (starting)		
EMERGENCY								
BOOSTER	4 (power)	07/117	27/130	26/3	300	MOTOR - 220 VOLT		
ROTARY TRANSFORMER	1 (big)	12	110	109	600	MOTOR - 220 volt.		

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors	Effective Area of each Conductor, Sq. ins.	COMPOSITION OF STRAND		Total Maximum Current, Ampères.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	4	19.1	2	0.103	910	60	V.I.R.	Lead covered and braided
	AUXILIARY GENERATOR	2	0.3	37	0.103	228	40	V.I.R.	"
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER	2	0.1	19	0.083	109	40	V.I.R.	"
	AUXILIARY SWITCHBOARDS	nil							
	ENGINE ROOM	1	0.022	7	0.064	31.0	25	V.I.R.	Lead covered and braided
	MOTOR ROOM	1	0.007	7	0.036	5.3	80	"	Lead covered and braided
	NAV. OFFICERS	2	0.022	7	0.064	18.5	100	"	Lead covered and braided
	RECOM. PORT	1	0.022	7	0.064	18.05	43	"	"
	" STAR	1	0.022	7	0.064	20.5	28	"	Lead covered and braided
	" FO. CABLE	1	0.007	7	0.036	6.4	140	"	"
	CARGO SPACE M.T.D.	2	0.007	7	0.036	5.5	78	"	"
	" M.T.D.	2	0.007	7	0.036	7.35	70	"	"
	" L.T.D. & HOLD	2	0.007	7	0.036	7.35	78	"	"
	" AFT UTD	2	0.007	7	0.036	5.7	40	"	"
	" M.T.D.	2	0.007	7	0.036	6.4	34	"	"
	" L.T.D. & HOLD	2	0.007	7	0.036	11	40	"	"
	WIRELESS INSTALLATION	2	0.06	19	0.064	40	35	V.I.R.	Lead covered and braided
	BATTERY CHARGING	2	0.06	19	0.064	70	35	V.I.R.	"
	SEARCHLIGHT	nil							
	MASTHEAD LIGHT	2	0.002	7	0.02	1.16	300	V.I.R.	Lead covered and braided
	SIDE LIGHTS	2	0.002	3	0.029	1.16	106	"	Lead covered and braided
	COMPASS LIGHTS	2	0.002	3	0.029	0.3	30	"	Lead covered and braided
	POOP LIGHTS	1	0.022	7	0.064	14.0	140	"	"
	CARGO LIGHTS	1	0.007	7	0.036	9.9	150	"	"
	ARC LAMPS	nil							
	HEATERS	nil							

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors	Effective Area of each Conductor, Sq. ins.	COMPOSITION OF STRAND		Total Maximum Current, Ampères.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	0.06	19	0.064	38	36	V.I.R.	Lead covered and braided
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP	1	0.06	19	0.064	113	90	V.I.R.	Lead covered and braided
	CIRC. SEA WATER PUMPS	2	0.06	19	0.064	76 (each motor)	95 (each motor)	"	"
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR	1	0.06	19	0.064	113	80	V.I.R.	"
	FRESH WATER PUMP	1	0.06	19	0.064	38	44	"	"
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	1	0.06	19	0.064	30	163	V.I.R.	"
	OIL FUEL TRANSFER PUMP	1	0.06	19	0.064	60	50	"	"
	WINDLASS	1	0.2	37	0.083	197	70	V.I.R.	"
	WINCHES, FORWARD	4	0.06	19	0.064	135 each motor	20	"	"
	WINCHES, AFT	4	0.06	19	0.064	135 each motor	20	"	"
	STEERING GEAR	1	0.06	19	0.064	57	190	"	"
	WORKSHOP MOTOR								
	VENTILATING FANS	2	0.06	19	0.064	68	120	V.I.R.	"
	MOTOR OF M.G. SET	1	0.06	19	0.064	72	62	"	Lead covered and braided
	AUX. REFRIG. MOTOR	1	0.06	19	0.064	40	20	"	Lead covered and braided
	SMALL BRINE PUMP	1	0.022	7	0.064	10	54	"	"
	PRESSURE BLOWER MOTOR	1	0.022	7	0.064	20	96	"	"
	REFRIG. CIRC. PUMP	1	0.06	19	0.064	76	84	"	"
	BRINE PUMPS	2	0.06	19	0.064	67	80 each motor	"	"
	MAIN REFRIG. MACHINES	2	0.75	91	0.103	416	75 each motor	"	Lead covered and braided
	COOLER FAN MOTORS	7	0.06	19	0.064	68	58	"	"
	SMALL PUMP (HEAT SPACE)	1	0.007	7	0.036	6	160	"	Lead covered and braided
	ENGINE ROOM VENT. FAN	1	0.06	19	0.064	36	120	"	"
	OIL SEPARATOR MOTOR	1	0.007	7	0.036	4.75	120	"	"
	BOOSTER MOTORS	2	0.022	7	0.064	15.1	350	V.I.R.	"

All Conductors are of annealed copper conforming to British Standard Specification No. 7.
The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
The foregoing is a correct description.

P. Pro The Sunderland Forge & Eng. Co. Ltd.

J. Thompson

Electrical Engineers

4th April, 1924.

COMPASSES.

Distance between electric generators or motors and standard compass 68 FEET

Distance between electric generators or motors and steering compass 60 FEET

The nearest cables to the compasses are as follows:—

A cable carrying 12.05 Ampères 11 feet from standard compass 11 feet from steering compass.

A cable carrying 0.2 Ampères 3 feet from standard compass 3 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 1° E degree on North course in the case of the standard compass, and 2° E degrees on a course from South to N.W. course in the case of the steering compass.

CAMMELL LAIRD AND COMPANY LIMITED.

J. W. Laird

Builder's Signature.

Date 7.4.24

LOCAL SECRETARY.

Is this installation a duplicate of a previous case Yes. If so, state name of vessel SS. "LA. PLAYA"

General Remarks (State quality of workmanship, opinions as to class, etc.)

This Electric light installation has now been fitted on board and is in accordance with the Rules. The materials and workmanship are of good quality and when tried under full working conditions was found satisfactory in every respect. The vessel is eligible in my opinion "ELECTRIC LIGHT".

It is submitted that
this vessel is eligible for
THE RECORD. Elec. light.

W.D. C.W.
10/4/24

Total Capacity of Generators 825 Kilowatts

The amount of Fee ... 3/4 £ 34.7-0

Avx SGT

Travelling Expenses (if any) £

When applied for,

5/4/24

When received,

12/6/24

John Dykes & Co.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL - 8 APR 1924

Assigned

Electric Light.

ZR



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