

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 19 When handed in at Local Office 24 JAN 1924 Port of LIVERPOOL.

No. in Survey held at BIRKENHEAD. Date, First Survey 20th July 23 Last Survey 23rd Jan 1924
Reg. Book. "LA PLAYA" (DIESEL ELECTRIC SHIP) (Number of Visits.....)

24987 on the Tons {Gross Not

Built at BIRKENHEAD. By whom built MESSRS CAMELL LAIRD & CO Yard No. 894. When built 1924

Owners UNIFRUIT CO SS. CO LD. (CLARK & SERVICE MGRS.) 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, Power 220 (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 interpole)

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.

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 and Yes, 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 micanite and the slab similarly insulated from its framework Yes, and is the 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, 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 No equalizer

switches Double Pole Circuit Breakers for each generator (110+220 volt), Single Pole switches & Double Pole fuses for Power & Single Pole switches & Single Pole fuses for lighting.

Instruments on main switchboard 9 ammeters 7 voltmeters - 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.

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 bus bars 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 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

Support and Protection of Cables, state how the cables are supported and protected Galv. iron clips supporting cables. Wire armoured lead covered & braided cables used in Mach. spaces. All other cables lead covered & braided

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 secured as per Table VI yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, 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 state the material of which the bushes are made lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas negative Busbar (110volts) earthed 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 Boat deck. Switches and D.P. fuses and Battery supply changes 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. gunds.

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

how are the cables led on wood gounds and supported by galv iron clips.

where are the controlling switches situated on Main Switchboard.

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 yes

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

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	260	Diesel Oil Engine		
AUXILIARY	1 lighting	25	110	228	650	Paraffin engine (Petrol distn)		
EMERGENCY								
ROTARY TRANSFORMER	1 lighting	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	2.91	127	0.103	910	60	Varnished Cambric	Lead covered braided & compounded
	AUXILIARY GENERATOR	2	0.3	37	0.108	228	40	V.I.R.	"
	EMERGENCY GENERATOR	1	0.1	19	0.083	109	46	V.I.R.	Lead covered braided & compounded
	ROTARY TRANSFORMER	2	0.1	19	0.083	109	46	V.I.R.	Lead covered braided & compounded
	AUXILIARY SWITCHBOARDS	Nil							
	ENGINE ROOM	1	0.022	7	0.064	31	25	V.I.R.	Lead covered braided & compounded
	MOTOR ROOM	1	0.007	7	0.036	5.3	80	"	"
	NAV. & OFFICERS ACCOM. PORT	2	0.022	7	0.064	18.5	160	"	Lead covered and braided
	" STARBOARD	1	0.022	7	0.064	20.5	28	"	"
	" FORECASTLE	1	0.007	7	0.036	6.4	140	"	Lead covered braided & compounded
	CARGO SPACE FORWARD	2	0.007	7	0.036	5.5	78	"	"
	" " M.T.O.	2	0.007	7	0.036	7.35	70	"	"
	" " L.T. DECK	2	0.007	7	0.036	7.35	78	"	"
	CARGO SPACE AFT	2	0.007	7	0.036	5.7	40	"	"
	" " M.T.O.	2	0.007	7	0.036	6.4	34	"	"
	" " L.T. DECK	2	0.007	7	0.036	11	40	"	"
	WIRELESS INSTALLATION BATTERY CHARGING	2	0.06	19	0.064	40	35	V.I.R.	Lead covered & braided
	SEARCHLIGHT	Nil							
	MASTHEAD LIGHT	2	0.002	7	0.02	1.16	300	V.I.R.	Lead covered wire armoured and braided
	SIDE LIGHTS	2	0.002	3	0.029	1.16	106	"	Lead covered & braided
	COMPASS LIGHTS	2	0.002	3	0.029	0.3	30	"	"
	POOP LIGHTS	1	0.022	7	0.064	14.0	140	"	Lead covered wire armoured and braided
	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	33	36	V.I.R.	Lead covered wire armoured & 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 wire armoured & braided
	CIRC. SEA WATER PUMPS	2	0.06	19	0.064	76 each motor	85 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	168	V.I.R.	Lead covered wire armoured & braided
	OIL FUEL TRANSFER PUMP	1	0.06	19	0.064	60	50	"	"
	WINDLASS	1	0.2	37	0.083	197	70	Varnished Cambric	"
	WINCHES, FORWARD	4	0.06	19	0.064	135 each motor	20	V.I.R.	"
	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.	Lead covered wire armoured & braided
	MOTOR OF M.G. SET	1	0.06	19	0.064	72	62	"	Lead covered wire armoured & braided
	AUX. REFRIG. MOTOR	1	0.06	19	0.064	40	20	"	Lead covered wire armoured & 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	34	"	"
	BRINE PUMPS	2	0.06	19	0.064	67	80 each motor	"	"
	MAIN REFRIG. MACHINES	2	0.75	91	0.103	416	75	"	Lead covered wire armoured & braided
	COOLER FAN MOTORS	7	0.06	19	0.064	68	58	"	"
	SMALL PUMP (HEAT SPACE)	1	0.007	7	0.036	6	160	"	"
	ENGINE ROOM VENT. FAN	1	0.06	19	0.064	36		"	"
	OIL SEPARATOR MOTOR	1	0.007	7	0.036	4.75	120	"	"

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.

THE SUNDERLAND FORGE & ENGINEERING CO. LTD. *Electrical Engineers.* Date 24. 1. 24
W. Arthur

COMPASSES.

Distance between electric generators or motors and standard compass 68 FT
 Distance between electric generators or motors and steering compass 60 FT.

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 .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 0 degrees on All course in the case of the standard compass, and 2 1/2 degrees on A S.E course in the case of the steering compass.

CAMMELL LAIRD AND COMPANY LIMITED.

J. W. Laird Builder's Signature. Date 24.1.24.

Is this installation a duplicate of a previous case No. If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c. 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 our opinion to have notation "ELECTRIC LIGHT"

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

J.W.L.
 29/1/24

Total Capacity of Generators 825 Kilowatts

The amount of Fee 2/6 £ 34. 7. 0 When applied for, 24 JAN 1924
Adv SET 12 6 19
 Travelling Expenses (if any) £ _____
 Installation Fee: £ 16. 6. 0 When received, 31/1/24

John Dykes & J. S. Roberts
 Surveyors to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Electric Light
JER

110.9.22.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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