

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office SAT. 16 DEC 1922

Date of writing Report 4/12/22 When handed in at Local Office 9/12/22 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle. Date, First Survey 26 Sept. 1922 Last Survey 4 Nov 1922  
Reg. Book. (Number of Visits...)

72312 on the S.S. San Manuel. Tons { Gross 5989 Net 3416

Built at Newcastle By whom built Palmers S & D Co Ltd Yard No. 932 When built 1922

Owners Eagle Oil Transport Co Ltd. Port belonging to London.

Electric Light Installation fitted by Palmers S & D Co Ltd. Contract No. 932 When fitted 1922.

System of Distribution Double wire distribution system

Pressure of supply for Lighting 100 volts, Heating ——— volts, Power 100 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 overload Yes ✓, are they compound wound Yes ✓

are they over compounded 5 per cent. Yes ✓, 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 ✓

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 Engine room on dynamo flat.

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 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 Main board in engine room on dynamo flat, Sub. board in stbd

passage saloon house 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, 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

generator + change over switches + fuses for each outgoing circuit on main board + sub switchboard

Instruments on main switchboard 2 ✓ ammeters 2 ✓ voltmeters ——— synchronising device for paralleling purposes.

" " sub " 2 ✓ " 1 ✓ " " "

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

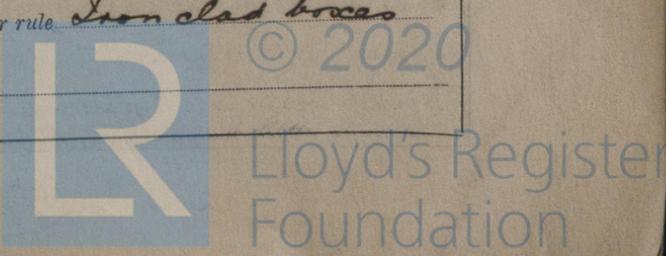
through double pole fuses + switches to earth. ✓

Shipping. 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 Iron clad boxes

with switch fuses. "Led" fuses fitted ✓

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**Insulation of Cables**, state type of cables, single or twin <sup>twin</sup> ~~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 *5 bolts* ✓

**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 \_\_\_\_\_

**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 *on special plating in engine room, specially armoured 2-core cable on fore aft gangways on plating* ✓  
 If cables are run in wood casings, are the casings and caps secured by screws \_\_\_\_\_, are the cap screws of brass \_\_\_\_\_, are the cables run in separate grooves \_\_\_\_\_. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI *yes* ✓

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

**Joints in Cables**, state if any, and how made, insulated, and protected *in porcelain connectors with cast iron cases* ✓

**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 \_\_\_\_\_  
 \_\_\_\_\_, are their connections made as per Rule \_\_\_\_\_

**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 \_\_\_\_\_

**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 fitted with glass, shades heavy 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 in pump rooms locked gas tight fittings having packed glands* ✓, how are the cables led *in galvanised iron piping* ✓  
 where are the controlling switches situated *double pole gas tight switches outside pump rooms* ✓

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

**Arc Lamps**, other than searchlight lamps, No. of \_\_\_\_\_, are their live parts insulated from the frame or case \_\_\_\_\_, are their fittings as per Rule \_\_\_\_\_

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

**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	1	12	100	120	320	<i>7 1/2" single cylinder steam engine</i>	—	
AUXILIARY	1	12	100	120	320	<i>do</i>	—	
EMERGENCY								
ROTARY TRANSFORMER								

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	2	.1478	37	.072	120.0	70	V.I.R.	Lead cov + arm'd
	AUXILIARY GENERATOR	2	.1478	37	.072	120.0	70	do	do
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	SWITCHBOARDS	2	.1964	37	.083	93.0	432	do	Lead cov + arm'd + Comp'd
	ENGINE ROOM	2	.02214	7	.064	21.52	24	do	Lead cov + arm'd
	BOILER ROOM								
	Engo. Acc.	2	.0396	19	.052	38.7	168	do	do
	Cargo Chute	2	.02214	7	.064	10.08	48	do	do
	Midship Acc.	2	.02214	7	.064	35.76	18	do	Lead covered
	Pump room	2	.01046	7	.044	2.4	135	do	Lead cov + arm'd
	Navigation	2	.00701	7	.036	8.76	90	do	Lead cov
	Crew space	2	.0396	19	.052	21.0	177	do	do
	WIRELESS	2	.01046	7	.044	15	105	do	Lead covered
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.00299	3	.036	1.12	303	do	do
	SIDE LIGHTS	2	.00299	3	.036	2.24	102	do	do
	COMPASS LIGHTS	2	.00194	3	.029	.28	20	do	do
	STEER LIGHTS	2	.00194	3	.029	1.12	180	do	Lead cov + arm'd
	CARGO LIGHTS	2	.003	7	.0076	3.36	99	do	Specially arm'd & braided
	ARC LAMPS								
	HEATERS								

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								
	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								
	WORKSHOP MOTOR	1	.00701	7	.036	9.5	80	V.I.R.	Lead cov + arm'd
	VENTILATING FANS								

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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.

For Palmer's Shipbuilding & Iron Co., Ltd. Electrical Engineers. Date 7-12-22.  
*W. MacLennan*

**COMPASSES.**

Distance between electric generators or motors and standard compass 194 feet  
 Distance between electric generators or motors and steering compass 38 feet.  
 The nearest cables to the compasses are as follows:—  
 A cable carrying .28 Amperes on the ~~feet~~ 8 feet from standard compass 8 feet from steering compass.  
 A cable carrying .28 Amperes 8 feet from standard compass on the ~~feet~~ 8 feet from steering compass.  
 A cable carrying \_\_\_\_\_ Amperes \_\_\_\_\_ 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 all course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.

*Thos. S. Simpson* Builder's Signature. Date 7-12-22.  
 SHIPYARD MANAGER.

Is this installation a duplicate of a previous case Yes. If so, state name of vessel San Maedonia

General Remarks (State quality of workmanship, opinions as to class, &c. \_\_\_\_\_)

*The above installation is in accordance with the Society's Rules.  
 The vessel is eligible in my opinion for notation elec light, wireless*

**It is submitted that  
 this vessel is eligible for  
 THE RECORD. Elec. Light**  
*W.T.B.*  
 18/12/22

Total Capacity of Generators 24. Kilowatts

The amount of Fee ... £ 19 : 10 : 14/12/22  
 Travelling Expenses (if any) : £ : See debit book.

*W.T. Badger*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 19 DEC. 1922

Assigned \_\_\_\_\_

Im. 822.—Transfer.  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)