

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

15 JUL 1925

Date of writing Report 24-6-25 When handed in at Local Office 13-7-1925 Port of GLASSGOW.  
 No. in Survey held at GLASSGOW. Date, First Survey Mar 2nd Last Survey 3rd July 1925.  
 Reg. Book. "S.S. ALAONIA" (Number of Visits.....)  
 87869 on the "S.S. ALAONIA" Tons { Gross 14030  
 Net 8448  
 Built at CLYDEBANK. By whom built MESSRS J. BROWN & CO Yard No. 495 When built 1905.  
 Owners THE CUNARD S.S. CO LTD Port belonging to Liverpool  
 Electric Light Installation fitted by MESSRS JOHN BROWN & CO Contract No. 495 When fitted 1925.

System of Distribution THREE WIRE DIRECT CURRENT. ✓  
 Pressure of supply for Lighting 110 ✓ volts, Heating 220 ✓ volts, Power 220 ✓ 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 No ✓  
 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 YES., 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 AFT END OF 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 YES, 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 ON SPECIAL PLATFORM AT 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 YES  
 Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes YES, if situated near unprotected are they protected from mechanical injury and damage from water, steam or oil YES and —, woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards YES, is all insulation of high dielectric strength and of are they constructed wholly of durable, incombustible non-absorbent materials YES, if semi-insulating material is used, are all conducting parts connected to one pole permanently high insulation resistance —, and is the insulated from the slab with mica or micanite and the slab similarly insulated from its framework YES., Are the following fittings as per Rule, viz.:— spacing or shielding of live parts frame effectively earthed YES, proportion of omnibus bars YES, accessibility of all parts YES, absence of fuses on back of board YES., connections of switches YES, individual fuses to voltmeter, pilot or earth lamp YES  
 Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches EACH GENERATOR HAS 1 CIRCUIT BREAKER FOR + OUTER & - (MECHANICALLY COUPLED) & 1 CIRCUIT BREAKER FOR - OUTER, 14 OUTGOING CIRCUITS HAVE D.P. CIRCUIT BREAKERS, WITH 0/4 SAFETY DEVICE. 6 OUTGOING CIRCUITS HAVE 75 AMP. D.P. SWITCHES, 6 OUTGOING CIRCUITS HAVE 75 AMP S.P. CHANGE-OVER SWITCHES. 3 OUTGOING CIRCUITS HAVE 25 AMP. S.P. CHANGE-OVER SWITCHES.  
 Instruments on main switchboard 18 ammeters 2 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 AMMETER FITTED ON EARTHING WIRE CIRCUIT INDICATING CURRENT LEAKAGE ON EITHER OF OUTER WIRES  
 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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Lloyd's Register  
Foundation

W293-003712



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 4.17 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 RUBBER INSULATED.

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 MAIN CABLES RUN ON PORCELAIN INSULATORS, CABLES IN 3<sup>RD</sup> CLASS ACCOM. & CREWS QUARTERS IN CONDUIT, MACHINERY COMP. CABLES ARE LEAD COVERED STEEL WIRE ARMoured, CABIN ACCOM. WIRING IN CASING.

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 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 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 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 FIBRE

Earthing Connections, state what earthing connections are fitted and their respective sectional areas EARTHING CONNECTIONS FITTED AT MAIN & EMERGENCY SWITCHBOARDS, ON EACH NEUTRAL WIRE

, 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 ONE PARAFFIN DRIVEN 32 KW EMERGENCY GENERATOR SITUATED ON BOAT DECK

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

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

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 axis of rotation fore and aft GENERALLY

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	2	300	225	1330	1000	GEARED TURBINE		
AUXILIARY	1	32	225	142	650	PARAFFIN MOTOR	PARAFFIN	
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...	4	0.7435	91	103	1330	20	RUBBER	BRAIDING
	AUXILIARY GENERATOR	1	0.1478	37	072	142	25	RUBBER	BRAIDING
	EMERGENCY GENERATOR	1	0.1478	37	072	142	25	RUBBER	BRAIDING
	ROTARY TRANSFORMER...	1	0.1964	37	083	83	660	RUBBER	BRAIDING
	AUXILIARY SWITCHBOARDS	1	"	"	"	87	440	"	"
	ENGINE ROOM	1	"	"	"	106	240	"	"
	BOILER ROOM	1	0.1009	19	083	61	360	"	"
	"	1	0.4064	61	093	285	260	"	"
	"	1	0.7435	91	103	408	800	"	"
	WIRELESS	1	0.00701	7	036	5.5	260	RUBBER	BRAIDING
	SEARCHLIGHT	1	0.00299	3	036	1.0	360	RUBBER	BRAIDING
	MASTHEAD LIGHT	1	"	3	036	1.0	30	"	"
	SIDE LIGHTS	1	0.00194	3	029	0.1	20	"	"
	COMPASS LIGHTS	1	0.00299	3	036	3.6	40	RUBBER	BRAIDING
	POOP LIGHTS	1	0.00299	3	036	3.6	40	RUBBER	BRAIDING
	CARGO LIGHTS	1	0.00299	3	036	3.6	40	RUBBER	BRAIDING
	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	1	0.1009	19	083	115	120	RUBBER	LEAD COVERED STEEL WIRE ARMOUR
	NEUTRAL BOOSTER	1	0.1964	37	083	184	30	"	BRAIDING
	MAIN DECK LIGHT PUMP	1	0.00299	3	036	1.2	40	"	CONDUIT
	SAFETY VALVE PUMP	1	0.0600	19	064	58	280	"	"
	EMERGENCY BILGE PUMP	1	0.1009	19	083	102	180	"	LEAD COVER STEEL WIRE ARMOUR
	SANITARY PUMP	1	0.00455	7	029	9.2	60	"	BRAIDING
	GYM MOTORS	2	0.00299	3	036	2.6	50	"	CONDUIT
	Circ. Sea Water Pumps	1	0.00299	3	036	2.6	50	"	CONDUIT
	MILKING MACHINE	1	0.00455	7	029	7.5	280	"	"
	Circ. Fresh Water Pumps	1	0.00299	3	036	4.0	100	"	"
	SOUNDING MACHINE	1	0.00299	3	036	4.0	100	"	"
	STEERING MOTOR	1	0.00299	3	036	4.0	100	"	"
	ENGINE TURNING GEAR	2	0.02214	7	064	39	100	"	LEAD COVER STEEL WIRE ARMOUR
	DOUGH MIXER	1	0.00455	7	029	12.4	90	"	CONDUIT
	ENGINE REVERSING GEAR	2	0.00455	7	029	14	160	"	"
	ASH HOIST	2	0.00455	7	029	14	160	"	"
	LUBRICATING OIL PUMPS	1	0.00299	3	036	3.2	230	"	"
	OIL FUEL TRANSFER PUMP	2	0.00701	7	036	22	30	"	LEAD COVER STEEL WIRE ARMOUR
	WATER CIRCULATING PUMP	2	0.00701	7	036	22	30	"	"
	WINDMILL	2	0.00455	7	029	17	60	"	"
	BRINE PUMP	2	0.00455	7	029	17	60	"	"
	WINDMILL FOR PUMP	3	0.1964	37	083	180	82	"	"
	WINDMILL FOR PUMP	3	0.1964	37	083	180	82	"	CONDUIT & L.C.S.W.A.
	STEERING GEAR	2	0.1478	37	072	135	240	"	LEAD COVER STEEL WIRE ARMOUR
	WORKSHOP MOTOR	1	0.00455	7	029	14	60	"	"
	VENTILATING FANS	8	"	7	029	40	70	"	CONDUIT
	"	11	"	7	029	10.6	120	"	"
	"	11	"	7	029	12.5	70	"	"
	"	1	0.00701	7	036	18.5	110	"	"
	"	1	0.0046	7	044	20.5	120	"	"
	"	1	"	7	044	30	100	"	"
	THERMOTANKS	8	"	7	044	25.5	40	"	"
	FORCED DRAUGHT FANS	2	0.1964	37	083	174	220	"	LEAD COVER STEEL WIRE ARMOUR
	POTATO PEELER	1	0.00455	7	029	7	150	"	CONDUIT
	DISH WASHER	2	"	7	029	7	100	"	"
	MIXING MACHINE	1	0.00299	3	036	9.5	15	"	"



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.

**John Brown & Company, Limited,**

Electrical Engineers.

Date

6/7/25

#### COMPASSES.

Distance between electric generators or motors and standard compass

25 FEET

Distance between electric generators or motors and steering compass

20 FEET.

The nearest cables to the compasses are as follows:—

A cable carrying 0.1 Amperes 1 feet from standard compass 1 feet from steering compass.

A cable carrying 5.6 Amperes 30 feet from standard compass 25 feet from steering compass.

A cable carrying 17.58 Amperes 15 feet from standard compass 10 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 course in the case of the standard

compass, and NIL degrees on course in the case of the steering compass.

**John Brown & Company, Limited.**

Builder's Signature.

Date

6/7/25

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 installation has been fitted on board under special survey tested under full working conditions and found satisfactory. The workmanship was found to be good and sound.

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

15/7/25

Total Capacity of Generators 632 Kilowatts

The amount of Fee

47.6.0

When applied for,

8/7/25

Travelling Expenses (if any) £

When received,

15/7/25

Committee's Minute

GLASGOW 14 JUL 1925

Assigned

Elec. Light

W.M.

J. S. Rankin

Surveyor to Lloyd's Register of Shipping.



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