

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

26 OCT 1927

Date of writing Report 5.10.27 When handed in at Local Office 22.10.27 Port of GLASGOW. Received at London Office

No. in Survey held at ARDROSSAN. Date, First Survey 19.8.27 Last Survey 19.9.1927  
Reg. Book. 42562 on the S.S. ROYUMA. (Number of Visits.....)

Built at ARDROSSAN. By whom built ARDROSSAN DYK LTD Yard No. 338 When built 1927  
Owners UNION CASTLE MAIL S.S. CO LTD Port belonging to LONDON. Tons {Gross 1289  
Net

Electric Light Installation fitted by THE SUNDERLAND FORGE & ENG CO Contract No. 338 When fitted 1927

System of Distribution DOUBLE WIRE ✓

Pressure of supply for Lighting 110 ✓ volts, Heating \_\_\_\_\_ volts, Power \_\_\_\_\_ volts.

Direct or Alternating Current, Lighting DIRECT ✓ Power \_\_\_\_\_

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 JES ✓

Generators, do they comply with the requirements regarding rating JES ✓, are they compound wound JES ✓

are they over compounded 5 per cent. JES ✓, if not compound wound state distance between each generator \_\_\_\_\_

Where more than one generator is fitted are they arranged to run in parallel \_\_\_\_\_, is an adjustable regulating resistance fitted in series with each shunt field \_\_\_\_\_

Are all terminals accessible, clearly marked, and furnished with sockets JES ✓, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched JES ✓

Are the lubricating arrangements of the generators as per Rule JES ✓.

Position of Generators MAIN ENGINE ROOM ✓

is the ventilation in way of the generators satisfactory JES ✓, are they clear of all inflammable material JES ✓

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 JES ✓

are their axes of rotation fore and aft JES ✓.

Earthing, are the boltplates and frames of the generating plant efficiently earthed JES ✓ are the prime movers and their respective generators in metallic contact JES ✓.

Main Switch Boards, where placed MAIN 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 JES ✓

are they protected from mechanical injury and damage from water, steam or oil JES ✓, 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 JES ✓, is all insulation of high dielectric strength and of permanently high insulation resistance JES ✓.

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework JES ✓

and is the frame effectively earthed JES ✓. Are the fittings as per Rule regarding:— spacing or shielding of live parts JES ✓, accessibility of all parts JES ✓, absence of fuses on back of board JES ✓, proportion of omnibus bars JES ✓, individual fuses to voltmeter, pilot or earth lamp JES ✓, connections of switches JES ✓.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches DOUBLE POLE SWITCH AND FUSES FOR MAIN GENERATOR. SINGLE POLE SWITCH & DOUBLE POLE FUSES FOR EACH OUTGOING CIRCUIT.

Instruments on main switchboard 1 ammeters 1 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 EARTH LAMP, SWITCH AND FUSE ON EACH POLE.

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

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule JES ✓.



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**Cables:** Single, twin, concentric, or multicore SINGLE & TWIN are the cables insulated and protected as per Tables IV or V of the Rules YES.

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 4.2.

**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.04 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 YES.

**Cable Runs,** are the cables fixed as far as possible in accessible positions not exposed to dry 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. MACHINERY SPACES: LEAD COVERED & BRAIDED SECURED BY GALV. IRON CLIPS. ACCOMMODATION: LEAD COVERED & BRAIDED SECURED BY BRASS CLIPS. MAIN: LEAD COVERED & BRAIDED SECURED BY GALV. IRON CLIPS. CARGO TRINER DECK SPACES: V.I.R. BRAIDED IN GALV. N.T. PIPE.

If cables are run in rood 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,** 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 MADE.

**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.

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas 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 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, has each navigation lamp an automatic indicator as per Rule YES.

**Secondary Batteries,** are they constructed and fitted as per Rule YES.

**Fittings,** are all fittings on weather decks, in stokeholds and engine rooms and where 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 DECK FITTINGS PROTECTED BY MALLEABLE CAST IRON TIND BAG 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, how are the cables led YES, where are the controlling switches situated YES.

**Searchlight Lamps,** No. of 1, whether fixed or portable YES, are their fittings as per Rule YES.

**Arc Lamps,** other than searchlight lamps, No. of 1, are their live parts insulated from the frame or case YES, are their fittings as per Rule YES.

**Motors,** are their running 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 and YES.

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted 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.

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	11	110	100	500	STEAM ENGINE		
AUXILIARY	—							
EMERGENCY	—							
ROTARY TRANSFORMER	—							

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	10090	19	.083	100	65	V.I.R.	LEAD COVERED & BRAIDED.
	EQUALISER CONNECTIONS	—							
	AUXILIARY GENERATOR	—							
	EMERGENCY GENERATOR	—							
	ROTARY TRANSFORMER	—							
	AUXILIARY SWITCHBOARDS	—							
	ENGINE ROOM	2	00455	7	.029	48	40	V.I.R.	LEAD COVERED & BRAIDED.
	BOILER ROOM	—							
	ACCOMMODATION SALOON & FWD ENG' & AFT	2	00701	7	.036	18.8	162	V.I.R.	LEAD COVERED & BRAIDED.
	MANOGEON	2	00455	7	.029	9.4	120	V.I.R.	LEAD COVERED & BRAIDED.
		2	00701	7	.036	6.7	208	V.I.R.	LEAD COVERED & BRAIDED.
	WIRELESS	2	01046	7	.044	12.3	130	V.I.R.	LEAD COVERED & BRAIDED.
	SEARCHLIGHT	—							
	MASTHEAD LIGHT	2	00194	3	.029	9	272	V.I.R.	LEAD COVERED & BRAIDED.
	SIDE LIGHTS	2	00194	3	.029	9	48	V.I.R.	LEAD COVERED & BRAIDED.
	COMPASS LIGHTS	2	00194	3	.029	2	24	V.I.R.	LEAD COVERED & BRAIDED.
	POOP LIGHTS	2	00299	3	.036	2.6	136	V.I.R.	LEAD COVERED & BRAIDED.
	CARGO LIGHTS	2	01046	7	.044	17.8	120	V.I.R.	LEAD COVERED & BRAIDED.
	ARC LAMPS	—							
	HEATERS	—							

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	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	—							
	(a) MOTOR GENERATOR	—							
	(b) MAIN MOTOR	—							
	WORKSHOP MOTOR	—							
	VENTILATING FANS	—							

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.

*pp. The Sunderland Forge Eng. Co. Ltd.  
R. Hough*

Electrical Engineers.

Date 13/10/27

COMPASSES.

Distance between electric generators or motors and standard compass 70 FEET

Distance between electric generators or motors and steering compass 64 FEET

The nearest cables to the compasses are as follows:—

A cable carrying 6.7 Amperes 20 feet from standard compass 12 feet from steering compass.

A cable carrying .2 Amperes 20 feet from standard compass LED INTO feet from steering compass.

A cable carrying .2 Amperes LED INTO feet from standard compass 20 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 any course in the case of the standard

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

FOR ADDRESSAN DOCKYARD, LIMITED.

*Caril Gosling* Builder's Signature.

Date 19 Oct 1927

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.

*J.R.*  
13/10/27

Total Capacity of Generators 11 Kilowatts.

The amount of Fee ... £ 11.0.0 : { When applied for, 14/10/27.

Travelling Expenses (if any) £ 10/6 : { When received, 10/10/27.

*J.R. Rankin*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 25 OCT 1927

Assigned Elec. Light.

*W.M.*



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Lloyd's Register  
Foundation

*a.b.*  
22/10/27

1m.1.26.—Transfer.  
(The Surrejoins are requested not to write on or back the space for Committee's Minute.)