

Rpt. 13.

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

No. 45434

Date of writing Report 1-6-1926 When handed in at Local Office 14-6-1926 Port of GLASGOW. Received at London Office 16 JUL 1926

No. in Survey held at GREENOCK. Date, First Survey 24th Jan Last Survey May 25th 1926
Reg. Book. 41374 on the S. S. "YITRUVIA" (Number of Visits.....)Built at PORT GLASGOW. By whom built R. DUNCAN & CO. Yard No. 370 Tons { Gross 4840
Net
When built 1926.

Owners MESSRS GOW. HARRISON & CO. Port belonging to GLASGOW.

Electric Light Installation fitted by MESSRS THE SUNDERLAND FORGE & CO. Contract No. 370 When fitted 1926.

System of Distribution Double wired. ✓
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 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 Starboard Top Recess 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 —, 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 Starboard Top Recess 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 — and —

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

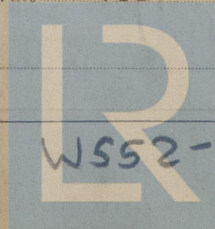
Double Pole Switch & Fuses for Generator & Double Pole switches & fuses for circuits

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 Lamps
switches & fuses.

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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16 JUL 70

Single x

Insulation of Cables, state type of cables, single or twin Twins 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 none 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 L.C.A.B in Engine & Boiler Rooms, L.C in galv. wrought iron pipe under fore & aft gangway, L.C. in accommodation

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 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 bushes.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas —, 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 No Emergency 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 —

are separate oil lanterns provided for the mast head lights and side lights —

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 —

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Special Gaslight cast iron pump room fittings, how are the cables led screwed galv. wrought iron pipe made watertight.

where are the controlling switches situated outside pump room.

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 —, are the coils self-contained and readily removable for replacement —

are the brushes, brush holders, terminals and lubricating arrangements as per Rule —, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material —

are they protected from mechanical injury and damage from water, steam or oil — are their axis of rotation fore and aft —

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 —

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	15	110	136.5		Vertical open type single cylinder steam engine			
AUXILIARY ...	—								
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	15	37	.072	136.5	30	V.I.R.	Lead, covered, arm'd & braided.
	AUXILIARY GENERATOR	—							
	EMERGENCY GENERATOR	—							
	ROTARY TRANSFORMER...	—							
	AUXILIARY SWITCHBOARDS	—							
	ENGINE ROOM ...	2	.007	7	.036	5	30	V.I.R.	Lead, covered, arm'd & braided.
	BOILER ROOM ...	2	.007	7	.036	4.5	680	V.I.R.	LCAB & LC
	Forecastle Ldg Pump Room	2	.002	3	.029	1.65	486	V.I.R.	" "
	Nav & For	2	.04	19	.052	18.25	526	V.I.R.	" "
	WIRELESS ...	2	.045	7	.052	137	480	V.I.R.	LC & LCAB
	SEARCHLIGHT ...	—							
	MASTHEAD LIGHT...	2	.002	3	.029	.4	304	V.I.R.	LC
	SIDE LIGHTS...	2	"	"	"	.4	90	"	LC
	COMPASS LIGHTS...	2	"	"	"	.25	24	"	LC
	POOP LIGHTS...	2	.007	7	.036	6.16	115	"	LC & LCAB
	CARGO LIGHTS...	—							
	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 ...								
	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.

The Sunderland Forge & Engineering Co. Ltd Electrical Engineers.

Date 4th June 1926.

COMPASSES.

Distance between electric generators or motors and standard compass

186 feet

Distance between electric generators or motors and steering compass

176 feet

The nearest cables to the compasses are as follows:—

A cable carrying 9 Amperes 10 feet from standard compass 10 feet from steering compass.

A cable carrying 25 Amperes 10 feet from standard compass led into feet from steering compass.

A cable carrying 25 Amperes led into 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

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

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.

Robert Duncan & Co. Ltd Builder's Signature.

Date 10/6/26

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 & found
satisfactory. The workmanship was found
to be good and sound.

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

Total Capacity of Generators 15 Kilowatts

The amount of Fee ... £ 15.0.0.

Travelling Expenses (if any) £ 10/6

Committee's Minute Elec. Light

Assigned GLASGOW 15 JUN 1926

J. S. Rankin
Surveyor to Lloyd's Register of Shipping.



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