

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

29 JUL 1936

Received at London Office

Date of writing Report 114 July 1936 When handed in at Local Office 21.7.36 Port of Glasgow.

No. in Survey held at Bowling - Glasgow Date, First Survey 29.5.36 Last Survey 14.7.1936  
Reg. Book. (Number of Vests 5)82420 on the S.S. "PYROPE" Tons { Gross 509  
Net 206

Built at Bowling By whom built Scott &amp; Sons Yard No. 338 When built 1936

Owners Wm Robertson Port belonging to Glasgow.

Electric Light Installation fitted by Scott &amp; Sons. Contract No. 338 When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two 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 — Generator driven by main engine.

Generators, do they comply with the requirements regarding temperature rise Yes, are they compound wound No for battery charging only

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 —, is an adjustable regulating resistance fitted in series with each shunt field Yes

approved Yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing —

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

Position of Generators In Engine Room aft end, belt driven from main engine. Yes, 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 axes 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 In 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 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, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance Yes

is it of an approved type Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Shindango, is the non-hygroscopic insulating material of an approved type Yes, and is the frame effectively earthed Yes

Are the fittings as per Rule regarding: — spacing or shielding of live parts Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the "off" position No, are all screws and nuts securing connections effectively locked Yes, are any fuses fitted on the live side of switches No

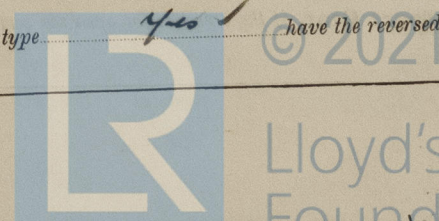
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches D.P. switch fuses for generator. D.P. switch fuses for battery. S.P. switch &amp; D.P. fuses for each outgoing circuit.

Are turbine driven generators fitted with emergency trip switch as per rule — Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material — Instruments on main switchboard 2 ammeters 1

voltage meters — synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

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

Earth Lamps. Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes, are the fusible cutouts of an approved type Yes have the reversed



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current protection devices been tested under working conditions

Joint Boxes, Section and Distribution Boards, is the

construction, protection, insulation, material, and position of these as per rule

Cables: Single, twin, concentric, or multicore

If the cables are insulated otherwise than as per Rule, are they of an approved type

any point of the installation under maximum load

area of 0.04 square inch and above provided with soldering sockets

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound

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

Support and Protection of Cables, state how the cables are supported and protected

If cables are run in wood casings, are the casings and caps secured by screws

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements

Joints in Cables, state if any, and how made, insulated, and protected

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed

Earthing Connections, state what earthing connections are fitted and their respective sectional areas

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule

Navigation Lamps, are these separately wired

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected

where are the controlling switches situated

are all fittings suitably ventilated

Heating and Cooking Appliances, are they constructed and fitted as per Rule

Searchlight Lamps, No. of

Arc Lamps, other than searchlight lamps, No. of

Motors, are their working parts readily accessible

are the brushes, brush holders, terminals and lubricating arrangements as per Rule

inflammable gases cannot accumulate and clear of all inflammable material

water, steam or oil

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

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing

field and motor speed regulators, starters and controllers constructed and fitted as per Rule

are required, are these fitted as per Rule

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

are all fuses of the filled cartridge type

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule



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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 ...	ONE	2	110/160	12.5	800	Main Engine. (Belt Drive)		
AUXILIARY ...								
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR ...	1	.0145	7	.052	12.5	37.	56	Rubber	Gals. Submg.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR...									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER { MOTOR GENERATOR...									
ENGINE ROOM...	1	.003	3	.036	7	12	10	"	"
BOILER ROOM...									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION ...									
NAVIGATION	1	.002	3	.029	3	7.8	230	"	"
MIDSHIP	1	.003	3	.036	6	12.0	180	"	"
FORWARD	1	.003	3	.036	3	12.	300	"	"
WIRELESS ...									
SEARCHLIGHT ...									
MASTHEAD LIGHT ...	1	.002	3	.029	.36	7.8	180	"	"
SIDE LIGHTS	1	.002	3	.029	.36	7.8	50	"	4 R. bracket
COMPASS LIGHTS	1	.002	3	.029	.18	7.8	30	"	"
POOP LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
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										



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All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Scott & Sons

Walter Scott Parton

Electrical Engineers.

Date

14th July 1936

#### COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

80 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 3 Ampères — feet from standard compass 8 feet from steering compass.

A cable carrying 36 Ampères — feet from standard compass 12 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 — degrees on — course in the case of the standard compass, and 1/2 degrees on any course in the case of the steering compass.

Scott & Sons

Walter Scott Parton

Builder's Signature.

Date

14th July 1936

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.)

The electrical equipment of

this vessel has been fitted on board under special survey, tested under full working conditions and found satisfactory. The materials and workmanship were found good and sound.

21/7/36.

Notes

Min

30.7.36

Total Capacity of Generators 2 Kilowatts.

The amount of Fee

£ 5.00

When applied for

27 JUL 1936

Travelling Expenses (if any) £

—

When received.

28.8.36

Surveyor to Lloyd's Register of Shipping.

H. H. Jones

Committee's Minute GLASGOW 28 JUL 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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