

# REPORT ON ELECTRIC FITTINGS.

(~~REPORT ON THE~~ THE PROPULSION OF THE VESSEL)

31 OCT 1928

Date of writing Report 26.10.1928 When handed in at Local Office 30.10.1928 Port of GLASGOW.

No. in Survey held at GLASGOW. Date, First Survey 11.9.28 Last Survey 29.10.1928

Reg. Book. 10070 on the TWIN SCREW FERRY "M.O.P.S.B.A." (Number of Visits.....)

Built at GLASGOW. By whom built MESSRS. ARROW & CO. LTD. Yard No. 1559. When built 1928.

Owners THE ARGENTINE GOVERNMENT. Port belonging to BUENOS AYRES.

Electric Light Installation fitted by METROPOLITAN-VICKERS ELECT. CO. LTD. Contract No. 1559. When fitted 1928.

System of Distribution TWO WIRE.

Pressure of supply for Lighting 125 volts, Heating volts, Power 250. 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 rating YES, are they compound wound

are they over compounded 5 per cent. NO, 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, clearly marked, and furnished with sockets YES, are they so spaced or shielded that they cannot be accidentally earthed,

short circuited, or touched YES. Are the lubricating arrangements of the generators as per Rule YES.

Position of Generators IN 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

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 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.

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 YES.

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, 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 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, 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 SWITCHES & CIRCUIT BREAKERS. DOUBLE POLE SELECTOR SW.

D.P. CH. OVER FIELD SWITCHES. & 17 POLE CHARGE OVER SW. 10 ALTERNATIVE CONTROLS.

Instruments on main switchboard ammeters 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, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YES.

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



**Cables:** Single, twin, concentric, or multicore SINGLE 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 3.5 volts.

**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 NO PAPER.

**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 EQUIPPED TO PERFORATED TRAYS ETC.

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 VIII 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 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 NONE.

are their connections made as per Rule

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

**Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven

**Navigation Lamps,** are these separately wired, controlled by separate switch and separate fuses, are the fuses double pole, are the switches and fuses grouped in a position accessible only to the officers on watch, has each navigation lamp an automatic indicator as per Rule

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

**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 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, how are the cables led, where are the controlling switches situated

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

**Are Lamps, other than searchlight lamps, No. of**, are the glass 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 safe from water, steam or oil, are their axes 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 and fitted as per Rule

**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

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

**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	170	250	680	350	6-CYL. M.A.N. ENGINE	DIESEL OIL	ABOVE 150° F.
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	3	3	37	.103	680	36	V.I.R.	Lead Covered
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	ACCOMMODATION								
	PROPULSION MOTORS	3	3	37	.103	680	30	V.I.R.	Lead Covered
	PROPULSION MOTOR FIELDS	1	0045	7	.029	18	30	V.I.R.	Lead Covered
	WINNIGENERATOR FIELDS	1	0045	7	.029	18	36	V.I.R.	Lead Covered
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	POOP LIGHTS								
	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.				
4 P.	BALLAST PUMP								
20 1/2	MAIN BILGE LINE PUMPS	1	.15	37	.072	139	40	V.I.R.	Lead Covered
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
15	AIR COMPRESSOR	1	0045	7	.029	11.2	90	V.I.R.	Lead Covered
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
4	OIL FUEL TRANSFER PUMP	1	.0165	7	.025	30	30	V.I.R.	Lead Covered
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR								
	VENTILATING FANS								

This vessel is fitted with either engine room control or from the pilot houses. The motors are controlled by varying the fields of the generators. The motor reversals are operated by changing over the fields. Master controllers are fitted in each pilot house & also in the engine room. 11 pole change over switches are fitted connecting up either pilot houses or engine room to the propulsion motors.

LIGHTING REPORT

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 & ON BEHALF OF  
YARROW & CO. Ltd.

Electrical Engineers.

Date 29 Oct 1928

Alfred J. Stanyard  
Secretary

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying Ampères feet from standard compass feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

Have the compasses been adjusted 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 degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

FOR & ON BEHALF OF  
YARROW & CO. Ltd.

Builder's Signature.

Date 29 Oct 1928

Alfred J. Stanyard  
Secretary

Is this installation a duplicate of a previous case If so, state name of vessel

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

See lighting Report.

AB  
30/10/28

Total Capacity of Generators 340 Kilowatts.

See London Letter of 22/3/28.

The amount of Fee ... £ 30-19-0

When applied for,

19

Travelling Expenses (if any) £

When received,

6-11-28

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

Committee's Minute

Assigned See accompanying machinery report.

1 m. 1. 27. - Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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