

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 20.3.23 19... When handed in at Local Office 11.4.23 Port of GLASGOW Received at London Office WED. APR. 18 1923

No. in Survey held at GLASGOW Date, First Survey 21.2.23 Last Survey 12.3.1923  
Reg. Book. 17023 on the "M.Y. ARABY" (Number of Visits 5)

Built at DUMFRIES By whom built A. MACMILLAN & SON Yard No. 630 When built 1923  
Tons { Gross 4936  
Net 2944

Owners D. MacLellan & Co. Ltd Port belonging to LIVERPOOL

Electric Light Installation fitted by A. MACMILLAN & SON LTD Contract No. 630 When fitted 1923

System of Distribution Two wire

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct current Power Direct current

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 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 Port side of motor 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 not fitted near wood etc and do, 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 Aft end of motor room Port.

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 placed in same comp't

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 not fitted near combustible mat.

are they constructed wholly of durable, incombustible 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 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 Generators, 500 amp D.P.

circuit breakers with overload & reverse current coils & 500 amp D.P. switches. Outgoing circuits 4-500 amp, 1-200

amp, & 15-100 amp D.P. switches & fuses. Equalizer switches 500 amp D.P. arranged in parallel.

Instruments on main switchboard 3 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 Two leads taken from bus bars (one from - & the other from +) through 2 D.P. switches, 2 D.P. fuses & 2 lampholders earthed at neutral point

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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Foundation

W375-0175 1/2



Insulation of Cables, state type of cables, single or twin <sup>single</sup> and <sup>twins</sup> 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 3.5

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 No paper insulated cables 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 clipped to beams, plates etc. and protected by iron plates where necessary

If cables are run in wood casings, are the casings and caps secured by screws <sup>no wood casing used</sup>, 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 No Refrigerating Chambers

Joints in Cables, state if any, and how made, insulated, and protected No joints used

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

Earthing Connections, state what earthing connections are fitted and their respective sectional areas All electric light fittings where wood blocks are used, are earthed with copper wire sectional area of which is .0010, 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 Emergency lights in Engine Room entrance & starting platform fed from battery & controlled from switch in Engine Room Entrance.

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 No fittings placed in spaces where goods are liable to be stacked, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected None fitting, how are the cables led None

where are the controlling switches situated None

Searchlight Lamps, No. of None, whether fixed or portable —, are their fittings as per Rule —

Arc Lamps, other than searchlight lamps, No. of None, are their live parts insulated from the frame or case —, are their fittings as per Rule —

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 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 — 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 None fitted

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 Flash point of oil 170° F.

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office Flash point of oil 170° F.

[illegible]



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.

ARCHD McMILLAN & SON, LTD.

*Barrick* DIRECTOR.

Electrical Engineers.

Date *27<sup>th</sup> March 1923*

#### COMPASSES.

Distance between electric generators or motors and standard compass

*47 feet*

Distance between electric generators or motors and steering compass

*40 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *6.5* Amperes *11* feet from standard compass *8* feet from steering compass.

A cable carrying *.5* Amperes *6* feet from standard compass *4* feet from steering compass.

A cable carrying *.2* Amperes *8* feet from standard compass *6* 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 *all the* course in the case of the standard compass, and *Nil* degrees on *all the* course in the case of the steering compass.

ARCHD McMILLAN & SON, LTD.

*Barrick*

DIRECTOR.

Builder's Signature.

Date *27<sup>th</sup> Mar 1923*

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 & sound.*

*It is submitted that*

*this vessel is eligible for*

*THE RECORD.*

*Elec. Light*

*D.A. 27/4/23.*

Total Capacity of Generators *300* Kilowatts

The amount of Fee ...

*£39 0 0*

When applied for, *27.3.23*

Travelling Expenses (if any) :

When received, *27.3.23*

*msl.*

*J. Rankin.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*GLASGOW 17 APR 1923*

Assigned

*Elec. Light.*

*BR.*



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