

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

13 SEP 1928

Date of writing Report 31st Aug 1928 When handed in at Local Office 12th Sept 28 Port of LeithNo. in Survey held at Leith Date, First Survey 21st Aug Last Survey 31st Aug 1928
Reg. Book.91062 on the S.S. "MUDA." Tons { Gross 82.17
Net

Built at Leith By whom built Henry Robb Plt. Yard No. 109. When built 1928.

Owners Beira Boating Co. Ltd. Port belonging to London.

Electric Light Installation fitted by Jelford Grier Mackay Ltd. Contract No. When fitted 1928.

System of Distribution Two Wire

Pressure of supply for Lighting 110 Volts 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 rating 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 —, 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 Starboard Side of 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 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 on Bulkhead beside Generator.

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 Slate Base, if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or miculate 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

Generator one DP. Switch & two SP Fuses

Each outgoing one SP. Switch & two SP. Fuses

Instruments on main switchboard one ammeter one voltmeter — 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

Switch, fuse & lamp between each bus bar & earth

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



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Cables: Single, twin, concentric, or multicore 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 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 —

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 In Saloon Accom. L.C. & Bran Clips elsewhere Armd or L.C. & A. supported with G.I. Clips

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 none

Joints in Cables, state if any, and how made, insulated, and protected none

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 —

—, 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 none

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 none

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 none

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

—, how are the cables led —

where are the controlling switches situated —

Searchlight Lamps, No. of one-1000 watt gas filled fixed, are their fittings as per Rule yes

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 none, 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 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 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 —

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 ...	<u>one</u>	<u>3</u>	<u>110</u>	<u>28</u>	<u>850</u>	<u>Steam Engine</u>		
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...	<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>28</u>	<u>20</u>	<u>V.R.</u>	<u>LC in Steel Tube</u>
	EQUALISER CONNECTIONS ...								
	AUXILIARY GENERATOR ...								
	EMERGENCY GENERATOR ...								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS ...								
	ENGINE ROOM ...								
	BOILER ROOM ...								
	ACCOMMODATION ...								
	Navigation	<u>one</u>	<u>.003</u>	<u>1</u>	<u>.064</u>	<u>4</u>	<u>60</u>	<u>V.R.</u>	<u>Armd.</u>
	Forward	<u>one</u>	<u>.0015</u>	<u>1</u>	<u>.044</u>	<u>12</u>	<u>45</u>	<u>V.R.</u>	<u>Armd.</u>
	Aft	<u>one</u>	<u>.0015</u>	<u>1</u>	<u>.044</u>	<u>15</u>	<u>50</u>	<u>V.R.</u>	<u>Armd.</u>
	Engine Room	<u>one</u>	<u>.0015</u>	<u>1</u>	<u>.044</u>	<u>2</u>	<u>12</u>	<u>V.R.</u>	<u>LC & A.</u>
	Searchlight	<u>one</u>	<u>.003</u>	<u>1</u>	<u>.064</u>	<u>9</u>	<u>60</u>	<u>V.R.</u>	<u>Armd.</u>
	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.				
	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.
The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
The foregoing is a correct description.

TELFORD, GRIER & MACKAY, LTD.

Electrical Engineers.

Date 1-9-28.

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

26 feet

The nearest cables to the compasses are as follows:—

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

A cable carrying 1/2 Amperes — feet from standard compass one feet from steering compass.

A cable carrying 9 Amperes — 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 course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.

HENRY ROBB, LIMITED.

Robert Crawford Director.

Builder's Signature.

Date

12/9/28.

Is this installation a duplicate of a previous case yes If so, state name of vessel S.T. Busi

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

This installation has been efficiently fitted on board in accordance with the Rules. The Materials & Workmanship are sound & good, & the installation was found satisfactory under full load & working conditions.

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

J.M.

14/9/28.

Total Capacity of Generators 3 Kilowatts.

The amount of Fee ... £ 3 : 0 : 0

When applied for,

12th Sept. 28.

Travelling Expenses (if any) £ :

When received,

18.9.28

John Houston.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 18 SEP 1928

Assigned

Elec. Light



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