

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

22 MAR 1926

Date of writing Report 13th March 1926. When handed in at Local Office

10 Port of Copenhagen

No. in Survey held at Copenhagen Date, First Survey 8th January Last Survey 4th March 1926
Reg. Book. Spm.

40052 on the Fuel Screw Motor Vessel "MOMBA"

Tons { Gross 3020.74
Net 1758.17

Built at Copenhagen By whom built Akt. Burmeister & Wain's Yard No. 341. When built 1926.

Owners The Adelaide Steamship Co., Ltd. Port belonging to Sydney. N.S.W.

Electric Light Installation fitted by Akt. Burmeister & Wain's Contract No. 341. When fitted 1926

System of Distribution Two wire with direct current, insulated system.

Pressure of supply for Lighting 110 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 rating yes, are they compound wound yes

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 yes, 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 the engine room, - Two 66 KW. on starboard side and one 33 KW. on port side.

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

No woodwork or other combustible material, 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 port side of the 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 No woodwork or other combustible material

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 micaite 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 For each generator a three pole circuit breaker with overload and reversed current trips, and a single pole equalizer switch as per rule.

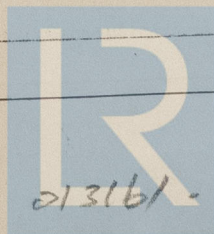
For each outgoing circuit a double pole linked switch and a double pole fuse as per rule.

Instruments on main switchboard 5 ammeters 4 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 On voltmeter is provided with ohm-scale and the switchboard is provided with two set of earth testing 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



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(Rule 1924-25)

Cables: Single, twin, concentric, or multicore *single & twin* are the cables insulated and protected as per Tables IV or V of the Rules *as per Table III, but all steel tape armoured with braiding over the armour.*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *about 5 Volt.*

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 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. *Cables are supported by screwed clips. - In way of holds and where deemed necessary protected by shut iron casings, iron tubes or strong wood casings. - Steel tape armoured cables used.*
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 *no refrigerated chambers.*

Joints in Cables, state if any, and how made, insulated, and protected *No joint in cables.*

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 *No earthing connections.*
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 *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 *✓*

Fittings, are all fittings on weather decks, in ~~staterooms~~ 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 *Where deemed necessary, protected by shut iron casings, iron tubes or wood casings*
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *no*
how are the cables led *✓*
where are the controlling switches situated *✓*

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

Are 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 axes 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 *no woodwork or other combustible material* 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 *No lightning conductors 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 fuel above 150° F.*

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 off 1 off	66 K.W. 33 K.W.	220	300. 150.	400	Auxiliary Diesel oil engines	Crude oil	above 150°F	
AUXILIARY ...									
EMERGENCY ...									
ROTARY TRANSFORMER	1 off	8	220/110	73	1500	Electric motor			

LIGHTING AND HEATING CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. in.	COMPOSITION OF STRAND.		Total Maximum Current Am. res.	Approximate Length (Lead and Return) in Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter in M.M.				
	MAIN GENERATOR 66 K.W.	2 in ships	95	37	1.80	abt 300	abt 65 "	Vulcanized rubber tape armoured and braided.	Lead covered, steel tape armoured and braided.
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...	2	35	19	1.53	73	abt 6 "	" "	" " "
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	2.5	7	0.67	13	" 6 "	" "	" " "
	BOILER ROOM								
	ACCOMMODATION OFFICERS AND SALOON MIDSHIPS	2	6	7	1.05	14	" 40 "	" "	Lead covered and partly steel tape armoured and braided.
	CREWSPACE AFT	2	2.5	7	0.67	7	" 100 "	" "	" " "
	NAVIGATION.	2	2.5	7	0.67	4.5	" 70 "	" "	Lead covered, steel tape armoured and braided.
	ON DECK AND IN HOLDS.	2	6	7	1.05	18	" 40 "	" "	" " " and in way of boiler protected by shut iron casings or strong wood casings.
	WIRELESS	2	10	7	1.35	abt 6	" 70 "	" "	Lead covered, steel tape armoured and braided.
	SEARCHLIGHT	2	1.5	1	1.38	" 0.55	" 120 "	" "	" " "
	MASTHEAD LIGHT MAIN MAST	2	1.5	1	1.38	" 0.55	" 140 "	" "	and in steel tubes along the mast lead covered, steel tape armoured and braided.
	SIDE LIGHTS	2	1.5	1	1.38	" 0.55	" 20 "	" "	" " "
	COMPASS LIGHTS	2	1.5	1	1.38	" 0.2	" 12 "	" "	" " "
	POOP LIGHTS	2	1.5	1	1.38	" 0.55	" 135 "	" "	" " "
	CARGO LIGHTS	2	1.5	1	Flexible		" 20 "	" "	Exposed and braided.
	ARC LAMPS	2	70	37	1.55	" 115	" 40 "	" "	Lead covered, steel tape armoured and braided.
	HEATERS	2	25	19	1.30	" 55	" 100 "	" "	" " "

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. in.	COMPOSITION OF STRAND.		Total Maximum Current Am. res.	Approximate Length (Lead and Return) in Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter in M.M.				
	BALLAST PUMP	1	35	19	1.53	69	abt 17 "	Vulcanized rubber tape armoured and braided.	Lead covered, steel tape armoured and braided.
	MAIN BILGE LINE PUMPS	1	10	7	1.35	36	" 65 "	" "	" " "
	SANITARY PUMP								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	BLOWER TO SUPER CHARGE AIR COMPRESSOR	1	150	37	2.27	160	" 64 "	" "	" " "
	FRESH WATER PUMP	1	2.5	7	0.67	6	" 20 "	" "	" " "
	ENGINE TURNING GEAR	1	10	7	1.35	34	" 52 "	" "	" " "
	ENGINE REVERSING GEAR								
	COOLING WATER AND LUBRICATING OIL PUMPS	1	35	19	1.53	78	" 34 "	" "	" " "
	OIL FUEL TRANSFER PUMP	1	25	19	1.30	60	" 36 "	" "	" " "
	WINDLASS	5	150	37	2.27	206	" 155 "	" "	" " "
	4 WINCHES, FORWARD	2	70	37	1.55	115	" 40 "	" "	" " "
	2 WINCHES, MIDSHIPS	5	150	37	2.27	190	" 72 "	" "	" " "
	4 WINCHES, AFT CAPSTAN								
	STEERING GEAR—MOTOR.	1	16	7	1.70	40	" 120 "	" "	" " "
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR	1	2.5	7	0.67	10	" 10 "	" "	" " "
	VACUATING PUMPS	1	2.5	7	0.67	4	" 17 "	" "	" " "
	OIL SEPARATORS	2	2.5	7	0.67	8	" 26 "	" "	" " "
	GALLEY MOTORS.	2	1.5	1	1.38	1.6	" 35 "	" "	" " "

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.

H. Blewett

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass *generators abt. 64 feet and motors abt. 12 feet.*

Distance between electric generators or motors and steering compass *— " — abt 60 " " — " — abt 9 " .*

The nearest cables to the compasses are as follows:—

A cable carrying *4.5* Amperes *abt. 6* feet from standard compass *abt. 7* feet from steering compass.

A cable carrying *0.2* Amperes *to the lamp in feet from standard compass and in the feet from steering compass.*

A cable carrying *✓* Amperes *✓* 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

The maximum deviation due to electric currents was found to be *0* degrees on *all* course in the case of the standard

compass, and *0* degrees on *all* course in the case of the steering compass.

H. Blewett

Builder's Signature.

Date

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 whole electric lighting and power installation as above described has been fitted onboard the vessel in accordance with the Rules, the approved plan and the requirement contained in the London Letter E. dated the with the exception of that the one 33 KW generator has been increased to a 66 KW generator. —

The material used and the workmanship are of good description in every respect.

The whole electric installation has been tested under full power working condition and found to work satisfactorily.

Recommend the vessel to have notation in the Register Book of "Electric light".

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

Total Capacity of Generators *165* Kilowatts.

The amount of Fee ... *£ 644.96* : { When applied for, *20.3.26*

Travelling Expenses (if any) £ : : { When received, *16.4.26*

FRI. 26 MAR 1926

Committee's Minute

Assigned

Elec Light

25/3/26

Det. Deben
Surveyor to Lloyd's Register of Shipping.

1m. 138. — Transfer.
(The Surveys are requested not to be on or below the space for Committee's Minute.)



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