

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report *4th Feb 1931* When handed in at Local Office *9th Feb 1931* Port of *Leith* Received at London Office *12 FEB 1931*

No. in Survey held at *Leith* Date, First Survey *4th Dec 1930* Last Survey *31st Jan 1931*
Reg. Book. (Number of Visits *13*)

89466 on the *M/V "AGUILA"* Tons { Gross *1368.81*
Net *821.97*

Built at *Leith* By whom built *Henry Robb Limited* Yard No. *181* When built *1931*

Owners *The Forestal Land, Timber & Railways Co. Ltd* Port belonging to *Buenos-Aires*

Electric Light Installation fitted by *Henry Robb Limited* Contract No. *181* When fitted *1931*

Is the Vessel fitted for carrying Petroleum in bulk *No*

System of Distribution *Two Wire Insulated*

Pressure of supply for Lighting *110* volts, Heating *110* volts, Power *110* 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 *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 *No*, is an adjustable regulating resistance fitted in

series with each shunt field *With Gardner Motor Driven Generator only*

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 *Bottom platform 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 *Yes*, 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 *Adjacent to Dynamos 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

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 *by position*, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards *Yes* and *Yes*

are they constructed wholly of durable, non-ignitable non-absorbent materials *Marble on Steel Frame*, 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

D.P. main switch and D.P. fuses for each generator

D.P.C.O. switches and D.P. fuses for each outgoing circuit

Instruments on main switchboard *Two* ammeters *One* 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 connected in series with mid point earthed to metal of ship

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 core 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 3.66

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 By metal clips and saddles secured by screws to structure of ship and to perforated steel trays in Engine Room; on Mast and Along Deck in S.I. Piping

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 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 Earth Detector Lamps only .003 area

are their connections made as per Rule yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule None 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 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 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 Marked on steel frame

where are the controlling switches situated yes

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

Are Lamps, other than searchlight lamps, No. of ✓, 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 Two are in Engine Room One on top of Galley, are they protected from mechanical injury and damage from water, steam or oil by position are their axes of rotation fore and aft One Fore & Aft Two Aftward Ship, 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 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.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	one	4	110	36.4		Pyle National Coy. Steam		
AUXILIARY	one	5.5	110	22.7	450	2 1/2 H.P. Turbine at engine	oil	Fitted
EMERGENCY	one	4	110	36.4	1000	Gardner Paraffin Motor	Paraffin	Run and
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	.0225	7	.064	36.4	46	40	Y.I.R.	Lead
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	1	.0225	7	.064	36.4	46	40	Y.I.R.	Lead
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	1	.002	3	.029	2.2	7.8	50	Y.I.R.	Lead
BOILER ROOM	1	.002	3	.029	1.9	7.8	160	Y.I.R.	Lead
AUXILIARY SWITCHBOARDS									
In Engine Room	1	.007	7	.036	15	24	4	Y.I.R.	Lead
In Boiler Room	1	.007	7	.036	6.9	24	272	Y.I.R.	Lead
In Pantry	1	.007	7	.036	15.7	24	96	Y.I.R.	Lead
In Wheel House	1	.0045	7	.029	3.5	18.2	160	Y.I.R.	Lead
ACCOMMODATION	1	.002	3	.029	2.8	7.8	60	Y.I.R.	Lead
WIRELESS									
SEARCHLIGHT									
MASTHEAD LIGHT	1	.002	3	.029	.55	7.8	400	Y.I.R.	Lead in S.I. Pipe
SIDE LIGHTS	1	.002	3	.029	.55	7.8	64	Y.I.R.	Lead
COMPASS LIGHTS	1	.002	3	.029	.55	7.8	40	Y.I.R.	Lead
POOP LIGHTS									
CARGO LIGHTS	1	.002	3	.029	1.4	7.8		Y.I.R.	Lead
ARO LAMPS	1	.0017	16	.012	1.4	3.5	140	Y.I.R.	Cob Tyre Braided Flexible
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective 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										
Fuel Oil purifying Pump	1	1	.007	7	.036	20	24	100	Y.I.R.	LEAD
Lub. Oil	1	1	.007	7	.036	20	24	50	Y.I.R.	LEAD
Galley stove	1	1	.0045	7	.036	7.7	18.2	130	Y.I.R.	LEAD

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.

Henry Robb Limited
H.R. & W.

Electrical Engineers.

Date Jan. 1931

COMPASSES.

Distance between electric generators or motors and standard compass

46 feet approx

Distance between electric generators or motors and steering compass

42 feet

The nearest cables to the compasses are as follows:—

A cable carrying $\frac{1}{8}$ Ampères on feet from standard compass feet from steering compass.

A cable carrying $\frac{1}{8}$ Ampères feet from standard compass on 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 Nil degrees on all courses in the case of the standard compass, and Nil degrees on all courses in the case of the steering compass.

HENRY ROBB, LIMITED

Robert Crawford

Builder's Signature.

Date 5/2/31.

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, etc.)

This installation has been efficiently fitted on board in accordance with the Rules, the materials & workmanship being sound & good.

It was tried under full load & working conditions and was found satisfactory in all respects.

Elect. Light

H.R.

11/2/31

Total Capacity of Generators

8

Kilowatts.

The amount of Fee

£ 0.0.0

When applied for,

7/2/31

Travelling Expenses (if any)

When received,

11/2/31

John Houston
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 17 FEB 1931

Assigned

TUE. 17 FEB 1931



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Foundation