

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office... MAY 28 1938

Date of writing Report 26<sup>th</sup> May 1938 When handed in at Local Office 24<sup>th</sup> May 1938 Port of Leith

No. in Survey held at Leith Date, First Survey 12<sup>th</sup> Nov 1934 Last Survey 20<sup>th</sup> May 1938  
Reg. Book. 16950 on the M/V "A.A. COWAN" Tons { Gross 295  
Net 133

Built at Leith By whom built Henry Robb Ltd Yard No. 242 When built 1938

Owners United Africa Co Ltd Port belonging to London

Electric Light Installation fitted by Henry Robb Ltd Contract No. ✓ When fitted 1938

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two wire parallel ✓ volts, Power ✓ volts.

Pressure of supply for Lighting 110 volts, Heating ✓ Power ✓

Direct or Alternating Current, Lighting 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 \_\_\_\_\_, 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 ✓

Position of Generators Port & Starboard sides - bottom platform of Engine Room ✓, are the lubricating arrangements of the generators as per Rule yes ✓

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 near ✓, are the generators protected from mechanical injury and damage from water, steam or oil yes ✓

are their axes of rotation fore and aft yes ✓, are the prime movers and their respective generators in metallic contact yes ✓

Main Switch Boards, where placed Starboard side fore & R bulkhead, adjacent to starboard 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 yes ✓

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes yes ✓, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards No woodwork near ✓

are they protected from mechanical injury and damage from water, steam or oil 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 ✓, proportion of omnibus bars yes ✓, accessibility of all parts yes ✓, absence of fuses on back of board yes ✓, connections of switches yes ✓, individual fuses to voltmeter, pilot or earth lamp yes ✓

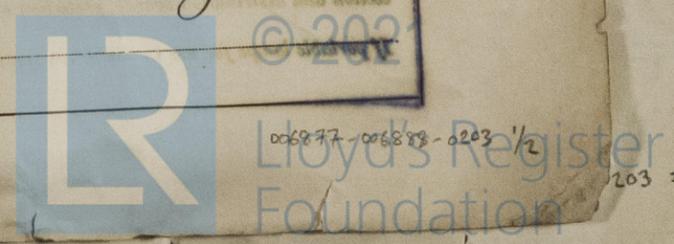
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches. Double pole main switch & double pole fuses to each generator. Double pole change over switches & double pole fuses to each outgoing circuit.

Instruments on main switchboard two ammeters 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. Earth lamps & switches ✓

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 multiple *Single & twin* are the cables insulated and protected as per Tables IV, V, XI or XIII 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 0.04 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 *V.I.R. braided cables in conduit in holds & on masts. Single core lead covered in accommodation. Twin lead covered armoured & braided in E.R.*  
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 *By mechanical connections in junction boxes.*

**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 *Sheathing of all cables bonded & earthed. Generators, & switchboard frame bolted direct to earth.*  
are their connections made as per Rule *✓*

**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 *✓*

**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

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected

where are the controlling switches situated

**Searchlight Lamps, No. of** *1*, whether fixed or portable *1*, are their fittings as per Rule

**Arc Lamps,** other than searchlight lamps, No. of *0*, are their live parts insulated from the frame or case *0*, are their fittings as per Rule

**Motors,** are their working parts readily accessible *0*, are the coils self-contained and readily removable for replacement *0*, are the brushes, brush holders, terminals and lubricating arrangements as per Rule *0*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *0*, are they protected from mechanical injury and damage from water, steam or oil *0*, are their axes of rotation fore and aft *0*, 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 *0*, if not of this type, state distance of the combustible material horizontally or vertically above the motors *0* 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	<i>Two</i>	<i>Each 5 Kw.</i>	<i>115</i>	<i>43.4</i>	<i>1350</i>	<i>Diesel Engines</i>	<i>Oil</i>	<i>Above 150° F</i>
AUXILIARY						<i>Ref. Rpt. No 169 &amp; 171</i>		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.			COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		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	<i>1</i>	<i>.0225</i>	<i>7</i>	<i>.064</i>	<i>43.4</i>	<i>46</i>	<i>64</i>	<i>V.I.R. Braided</i>	<i>In conduit.</i>	
EQUALISER CONNECTIONS										
AUXILIARY GENERATOR										
EMERGENCY GENERATOR										
ROTARY TRANSFORMER MOTOR GENERATOR										
ENGINE ROOM										
BOILER ROOM										
AUXILIARY SWITCHBOARDS										
<i>Engine Room</i>	<i>1</i>	<i>.002</i>	<i>3</i>	<i>.029</i>	<i>1.22</i>	<i>7.8</i>	<i>10</i>	<i>V.I.R.</i>	<i>L.C. armoured &amp; braided overall</i>	
ACCOMMODATION										
<i>Forward</i>	<i>1</i>	<i>.002</i>	<i>3</i>	<i>.029</i>	<i>3.0</i>	<i>7.8</i>	<i>216</i>	<i>V.I.R. Braided</i>	<i>In conduit.</i>	
<i>Aft</i>	<i>1</i>	<i>.002</i>	<i>3</i>	<i>.029</i>	<i>5.5</i>	<i>7.8</i>	<i>120</i>	<i>"</i>	<i>"</i>	
WIRELESS										
SEARCHLIGHT										
MASTHEAD LIGHT										
SIDE LIGHTS										
COMPASS LIGHTS										
POOP LIGHTS										
CARGO LIGHTS										
ARC LAMPS										
HEATERS										

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		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										

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:

Electrical Engineers.

Date

26<sup>th</sup> May 38

*John Ashcroft*

COMPASSES.

Distance between electric generators or motors and standard compass 28 ft.

Distance between electric generators or motors and steering compass 22 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 136 Ampères on feet from standard compass 9 feet from steering compass.

A cable carrying 136 Ampères 9 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 1/2 degrees on all course in the case of the standard

compass, and 1/2 degrees on all course in the case of the steering compass.

HENRY ROBB, LIMITED:

Builder's Signature.

Date

26<sup>th</sup> May 38

*John Ashcroft*

Is this installation a duplicate of a previous case yes If so, state name of vessel m/s "Joseph Flint"

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. The wiring of the vessel has been carried out in a satisfactory manner, in accordance with the approved plan.

On completion the installation was found in good order under full load & working conditions.

*W. J. L.*  
30/5/38

Total Capacity of Generators 10 Kilowatts.

The amount of Fee £ 10 : 0 : 0 When applied for, 27-5-38.

Travelling Expenses (if any) £ : : 30-6-38 When received.

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

Committee's Minute FRI. 3 JUN 1938

Assigned See Lth JE 19587

The Surveyors are requested not to write on or below the space for Committee's Minutes.

