

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 5th Oct 1931 When handed in at Local Office 6th Oct 1931 Port of Leith Received at London Office 7 OCT 1931

No. in Survey held at Leith Date, First Survey 1st Sept Last Survey 30th Sept 1931
Reg. Book. (Number of Visits 12)

41108 on the s/s "LAFONIA" Tons { Gross 768.04
Net 343.65

Built at Leith By whom built H. Robb Ltd. Yard No. 189 When built 1931

Owners Falkland Islands Co Ltd. Port belonging to Leith

Electric Light Installation fitted by W. M. Goodfellow & Co Ltd. Contract No. When fitted 1931

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution DIRECT CURRENT - TWO WIRE INSULATED.

Pressure of supply for Lighting 110 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 No, 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 STARBOARD SIDE OF 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 - 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 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 -, and is the frame effectively earthed -. 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 DOUBLE POLE CHANGE-OVER-SWITCH FITTED FOR STEAM DRIVEN & OIL DRIVEN GENERATORS, AND DOUBLE POLE FUSES FOR EACH GENERATOR. EACH OUTGOING CIRCUIT CONTROLLED BY SINGLE POLE SWITCH AND DOUBLE POLE FUSES.

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 INDICATING LAMPS, PROTECTED BY SWITCHES & FUSES

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

11021
Cables: Single, twin, concentric, or multicore Single & Twin. are the cables insulated and protected as per Tables IV or V of the Rules Yes

Fail of Pressure, state maximum between bus bars and any point of the installation under maximum load 4.5 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 NONE FITTED.

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 LEAD COVERED & ARMURED CABLES SUPPORTED BY GALVANISED IRON SADDLES. LEAD COVERED CABLES BY BRASS SADDLES.

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 PORCELAIN INTERIORS FITTED IN W.T. CAST IRON BOXES WITH GLANCED CABLE WLETS

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 -

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 OIL DRIVEN GENERATING SET FITTED ADJACENT TO STEAM DRIVEN SET ON STARBOARD SIDE OF ENGINE ROOM. CONNECTED TO MAIN SWITCHBOARD BY MEANS OF CHANGE-OVER SWITCH.

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 NONE SO FITTED.

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, whether fixed or portable FIXED, are their fittings as per Rule Yes

Arc 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 -, 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 -

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.	Amperes.	Revs per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	ONE	6	110	64	550	Steam Engine.		
AUXILIARY								
EMERGENCY	ONE	5	110	45	625	Oil Engine.	Fuel Oil.	
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	ONE	.039	19	.052	54	64.	36.	RUBBER.	LEAD & ARMOUR.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR	ONE	.039	19	.052	45	64.	24.	"	"
ROTARY TRANSFORMER									
ENGINE ROOM	ONE	.045	7	.029	6	18.2.	40.	RUBBER.	LEAD & ARMOUR.
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION SECTION BOARD.	ONE	.022	7	.064	34	46.	90.	RUBBER.	LEAD & ARMOUR.
ART. ACCOM. LIGHTING.	ONE	.0045	7	.029	10	18.2	110.	RUBBER	LEAD & ARMOUR.
MIDSHIP. ACCOM. LIGHTING.	ONE	.007.	7	.036	10	24.	Loop.	RUBBER.	LEAD COVERED.
FOK. ACCOM. LIGHTING.	ONE	.01.	7	.044	16.	31.	110.	"	"
WIRELESS	ONE	.0045	7	.029	-	18.2.	180.	RUBBER	LEAD & ARMOUR.
SEARCHLIGHT	ONE	.0029	3	.036	9.1	12	100	RUBBER.	LEAD COVERED.
MASTHEAD LIGHT	ONE	.00194	3	.029	.35	7.8.	180.	"	LEAD & ARMOUR.
SIDE LIGHTS	ONE	"	"	"	.35	7.8.	60.	"	LEAD COVERED.
COMPASS LIGHTS	ONE	"	"	"	.15	7.8.	30.	"	"
POOP LIGHTS									
CARGO LIGHTS - SECTION.	ONE	.007.	7	.036	10	24.	90.	RUBBER.	LEAD & ARMOUR.
FOK. CARGO.	ONE	"	"	"	6.5	24.	90.	RUBBER.	LEAD COVERED.
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.

For & on Behalf Of.

W. MUIR GOODFELLOW & CO LTD.

Electrical Engineers.

Date 5th Oct. 1931.

W. M. Goodfellow

Managing Director.

COMPASSES.

Distance between electric generators or motors and standard compass

50 FEET.

Distance between electric generators or motors and steering compass

53 "

The nearest cables to the compasses are as follows:—

A cable carrying 2.5 Ampères 10 feet from standard compass 9 feet from steering compass.

A cable carrying .15 Ampères ~~LEAD INTO~~ feet from standard compass 6 feet from steering compass.

A cable carrying .15 Ampères 6 feet from standard compass ~~LEAD INTO~~ 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 Ltd pp. A. W. M. Builder's Signature.

Date 6-10-31

Is this installation a duplicate of a previous case If so, state name of vessel

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.

elec. light

8/10/31

Total Capacity of Generators *11* Kilowatts.

The amount of Fee *£ 8-10-0*

When applied for, *6/10/31*

Travelling Expenses (if any) £

When received, *19.10.31*

John Houston

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 16 OCT 1931

Assigned

elec. light

Im. 11, 20. — Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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