

MURRAY

Rpt. 13.

No. 16,631

# REPORT ON ELECTRIC FITTINGS

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 17-12-1924 when handed in at Local Office 17-12-1924 Port of Leith

No. in Survey held at "Barntisland" Date, First Survey 18-9-24 Last Survey 6-12-1924

Reg. Book. S. 88263 on the S/S. "CARLBEATH"

(Number of Visits... 6)  
Tons { Gross 2110  
Net 1250

Built at Barntisland By whom built Barntisland S B Co Ltd Yard No. 132 When built 1924

Owners Grahamston Shipping Co Ltd (S. L. Duff) Port belonging to Glasgow.

Electric Light Installation fitted by Messrs Moneroff Bros. Metel Contract No. When fitted 1924

System of Distribution Double wire system ✓

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 overload yes ✓, are they compound wound yes ✓

are they over compounded 5 per cent. — yes ✓, if not compound wound state distance between each generator 1 generator only ✓

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 and clearly marked yes ✓, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited yes ✓

Are the lubricating arrangements of the generators as per Rule yes ✓

Position of Generators 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 all protected ✓ and —, are the generators protected from mechanical injury and damage from water, steam or oil yes ✓

are their axis 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 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 same compartment ✓

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 all protected ✓ and —

are they constructed wholly of durable, incombustible 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 connected to one pole insulated from the slab with mica oromite and the slab similarly insulated from its framework yes ✓, and is the frame effectively earthed yes ✓

Are the following fittings as per Rule, viz.: — 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 1 generator only

no equalizer switches in use. Single pole switches & double pole fuses on outgoing circuits, 6 in number ✓

Instruments on main switchboard 1 ✓ ammeters 1 ✓ voltmeters no ✓ 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 2 earth lamps with switches ✓

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules. yes ✓

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes ✓

13/16631

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 ...	1	6	110	54	450	Steam Engine		
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...	2	.0300	19	.044	54	44	Rubber	armoured
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM ...	2	.0020	3	.029	6	48	"	"
	BOILER ROOM ...	2	.0020	3	.029	3	90	"	"
	Officers Quarters	2	.0070	7	.036	18	55	"	"
	Saloon etc.	2	.0070	7	.036	22	180	"	"
	Navigation main	2	.0045	7	.029	5	240	"	"
	WIRELESS ...	2	.0070	7	.036	12	200	"	"
	SEARCHLIGHT								
	MASTHEAD LIGHT...	2	.0020	3	.029	1	220	"	"
	SIDE LIGHTS ...	4	.0020	3	.029	2	80	"	"
	COMPASS LIGHTS ...	4	.0020	3	.029	2	50	"	"
	POOP LIGHTS ...	2	.0045	7	.029	7	230	"	"
	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 ...								
	WORKSHOP MOTOR ...								
	VENTILATING FANS ...								

Insulation of Cables, state type of cables, single or twin Twin are the cables insulated and protected as per Tables III or IV of the Rules. Yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2 1/2 volts

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 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 Rubber Covered

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 Galvanised Iron clips fixed with 3/8 tap screws, brass clips with brass wood screws.

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 VI Yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements no such chambers

Joints in Cables, state if any, and how made, insulated, and protected cables looped into porcelain extensions these mounted on hardwood blocks, then covered with G. Iron covers where necessary.

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 Positions, 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 Switchboard earth with .0070, Dynamo bolted direct

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 no emergency set

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, are separate screens provided for the use of oil and electric side lights Yes

are separate oil lanterns provided for the mast head lights and side lights Yes

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 no

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 —, whether fixed or portable —, are their fittings as per Rule

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 axis 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 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.

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.

*Maurice B. Methil & Burntisland Electrical Engineers.*

Date *11/12/24*

**COMPASSES.**

Distance between electric generators or motors and standard compass *78 ft*  
 Distance between electric generators or motors and steering compass *75 ft*

The nearest cables to the compasses are as follows:—

A cable carrying *5* Ampères *15* feet from standard compass *10* feet from steering compass. ✓  
 A cable carrying *1/2* Ampères *10* feet from standard compass *5* 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 \_\_\_\_\_

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 *nil* degrees on *any* ✓ course in the case of the standard compass, and *nil* degrees on *any* ✓ course in the case of the steering compass.

THE BURNTISLAND SHIPBUILDING COMPANY LTD.

*Methil* DIRECTOR

Builder's Signature. Date *16/12/24*

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *"/s/ Halbeath"*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The installation has been well fitted & proved satisfactory on trial. It is recommended that a notation of electric light be inserted in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. *Blue light*  
*RJ*  
*20/12/24*

*AYTON*

Total Capacity of Generators *6* Kilowatts

Travelling Expenses (if any): £ *6* : - : { When applied for, *13-12-1924*  
 When received, *See debit book.*

*R.J. Easthope*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_

Assigned \_\_\_\_\_

1m.3.22.—Transfer. (The Surveyors are requested not to write on or within the space for Committee's Minute.)