

Rpt. 13.

REPORT ON ELECTRIC FITTINGS.

No. 47874

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19. 4. 1928 When handed in at Local Office 28. 4. 1928 Port of GLASGOW. Received at London Office 2 MAY 1928

No. in Survey held at GREENOCK. Date, First Survey 21. 1. 28 Last Survey 13. 4. 28 19

Reg. Book. 39839 on the S. S. "ATHELMONARCH" (Number of Visits 9)

Built at PORT GLASGOW. By whom built MESSRS W. HAMILTON LTD Yard No. 400 Tons { Gross Net } When built 1928

Owners THE UNITED MOLASSES CO LTD Port belonging to LIVERPOOL.

Electric Light Installation fitted by MESSRS TELFORD GRIER & MCKAY Contract No. 400 When fitted 1928

System of Distribution Two Wire

Pressure of supply for Lighting 110 volts, Heating — 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 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 Main Engine Room 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

— 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 on Bulkhead near Generators

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 white marble base, 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

Double pole overload Circuit Breaker on each Generator Circuit.

Double pole Throw over Switch & two Single pole fuses on each outgoing Circuit.

Instruments on main switchboard two ammeters two 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

Lamp Fuse & Switch in Series between each bus bar & earth.

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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Cables: Single, twin, concentric, or multicore Single 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 50 Volts Lighting 4 Volts Power

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 yes

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 L.C. in Steel Tubing or Clipped to Bulkheads etc in Accommodation

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 fitted are fitted, are the cables and fittings in accordance with the special requirements yes

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

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 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 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

Watertight Well Glass Fittings strongly guarded.

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 none, whether fixed or portable —, are their fittings as per Rule —

Arc 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 none

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 none

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 ...	<u>Two</u>	<u>25 each</u>	<u>110</u>	<u>227</u>	<u>400</u>	<u>Enclosed Steam Engine</u>		
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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
MAIN GENERATOR...		<u>one</u>	<u>.15</u>	<u>37</u>	<u>.072</u>	<u>227</u>	<u>85</u>	<u>Paper</u>	<u>Lead covered</u>
EQUALISER CONNECTIONS ...									
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER...									
AUXILIARY SWITCHBOARDS ...									
ENGINE ROOM ...									
BOILER ROOM ...									
ACCOMMODATION ...									
Workshop		<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>26</u>	<u>100</u>	<u>O.I.R.</u>	<u>L.C. & A.</u>
Steering		<u>one</u>	<u>.2</u>	<u>37</u>	<u>.083</u>	<u>180</u>	<u>740*</u>	<u>O.I.R.</u>	<u>Lead covered</u>
Centre Motors		<u>one</u>	<u>.0225</u>	<u>7</u>	<u>.064</u>	<u>40</u>	<u>100</u>	<u>O.I.R.</u>	<u>L.C. & A.</u>
Engine Room		<u>one</u>	<u>.007</u>	<u>7</u>	<u>.036</u>	<u>20</u>	<u>30</u>	<u>O.I.R.</u>	<u>L.C. & A.</u>
Engineers		<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>23</u>	<u>170</u>	<u>O.I.R.</u>	<u>Lead covered</u>
Officers		<u>one</u>	<u>.04</u>	<u>19</u>	<u>.052</u>	<u>28</u>	<u>420</u>	<u>O.I.R.</u>	<u>Lead covered</u>
Navigation		<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>9</u>	<u>480</u>	<u>O.I.R.</u>	<u>Lead covered</u>
Crew		<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>7</u>	<u>820</u>	<u>O.I.R.</u>	<u>Lead covered</u>
Cargo		<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>15</u>	<u>380</u>	<u>O.I.R.</u>	<u>Lead covered</u>
Gyro Compass		<u>one</u>	<u>.0045</u>	<u>7</u>	<u>.029</u>	<u>8</u>	<u>450</u>	<u>O.I.R.</u>	<u>Lead covered</u>
WIRELESS ...		<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>9</u>	<u>455</u>	<u>O.I.R.</u>	<u>Lead covered</u>
SEARCHLIGHT ...		<u>one</u>	<u>.04</u>	<u>19</u>	<u>.052</u>	<u>60</u>	<u>840</u>	<u>O.I.R.</u>	<u>Lead covered</u>
MASTHEAD LIGHT...									
SIDE LIGHTS...									
COMPASS LIGHTS ...									
ROOF LIGHTS ...									
CARGO LIGHTS ...									
ARC LAMPS ...									
HEATERS ...									

* In length given for Steering Motor there is included 4 wires —
Two for Motor Armature & Two for Series Winding

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	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—									
(a) MOTOR GENERATOR...									
(b) MAIN MOTOR ...									
WORKSHOP MOTOR ...									
VENTILATING FANS ...									



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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.

TELFORD, GRIER & MACKAY, LTD.

Electrical Engineers.

Date **24-4-28**

COMPASSES.

Distance between electric generators or motors and standard compass **190 feet**

Distance between electric generators or motors and steering compass **190 feet**

The nearest cables to the compasses are as follows:—

A cable carrying **9** Ampères **10** feet from standard compass **6** feet from steering compass.

A cable carrying **1/2** Ampères **one** foot from standard compass **one** foot 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 **any** course in the case of the standard compass, and **nil** degrees on **any** course in the case of the steering compass.

WILLIAM HAMILTON & CO. (1928) Limited

Builder's Signature. Date **26/4/28**

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.)

This installation has

**been fitted as board under special survey.
Tested under full working conditions and
found satisfactory.
The materials and workmanship were
found to be good and sound.**

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

JWD.
8/5/28

Total Capacity of Generators **50** Kilowatts.

The amount of Fee ... **£ 87.10.0** When applied for, **@ G.R.V.**

Travelling Expenses (if any) **£ 10.6** When received, **13/4/28**

J. Rankin
Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 1-MAY 1928**

Assigned **Elec. Light.**



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