

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

8 MAR 1930

Date of writing Report 7. 3. 1930. When handed in at Local Office 7. 3. 1930 Port of Middlesbrough.

No. in Survey held at HAVERTON HILL - ON TEES Date, First Survey 9 Dec/29 Last Survey 21. 2. 1930.
Reg. Book.

29307 on the Athelregent

Built at HAVERTON HILL ON TEES By whom built FURNESS SHIPBUILDING CO. LTD. Yard No. 153 When built 1929/30

Owners BRITISH MOLASSES CO. LTD. Port belonging to LIVERPOOL

Electric Light Installation fitted by Telford Grier & Mackay Ltd. No. When fitted 1929/30

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 ~~yes~~ 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 near starting platform.

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 bulk head 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 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 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 with time lags for each Generator.

Double pole change-over switch & two single pole fuses for each outgoing circuit.

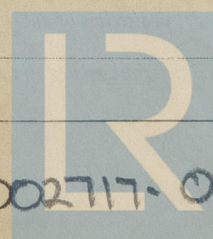
Instruments on main switchboard two ammeters two voltmeters — synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

lamp switch & fuse 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 5 volts Lighting 7 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, upakes 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 Steel tubes along decks. clipped under decks or to Bulk heads elsewhere.

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 none

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

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule yes. are their connections made 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 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 In W.T well-glass
fittings & in pump rooms double glass fittings
In watertight steel tube, how are the cables led

where are the controlling switches situated outside dangerous spaces

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

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 —, 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 yes

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office yes.

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	<u>Two</u>	<u>25</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>62</u>	<u>Paper.</u>	<u>L.C. & A.</u>
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>27</u>	<u>30</u>	<u>V.I.R.</u>	<u>L.C. A & B.</u>
	BOILER ROOM								
	ACCOMMODATION								
	Crew	<u>one</u>	<u>.0145</u>	<u>7</u>	<u>.052</u>	<u>10</u>	<u>770</u>	<u>V.I.R.</u>	<u>L.C. A & B.</u>
	Officers		<u>.0225</u>	<u>7</u>	<u>.064</u>	<u>26</u>	<u>440</u>		
	Syno.		<u>.01</u>	<u>7</u>	<u>.044</u>	<u>8</u>	<u>450</u>		
	Cargo.		<u>.01</u>	<u>7</u>	<u>.044</u>	<u>14</u>	<u>400</u>		
	Engineers		<u>.01</u>	<u>7</u>	<u>.044</u>	<u>23</u>	<u>190</u>		
	Navigation		<u>.007</u>	<u>7</u>	<u>.036</u>	<u>6</u>	<u>480</u>		
	Centrifuges		<u>.0225</u>	<u>7</u>	<u>.064</u>	<u>40</u>	<u>90</u>		
	Workshop.		<u>.01</u>	<u>7</u>	<u>.044</u>	<u>30</u>	<u>90</u>		
	Steering		<u>.075</u>	<u>19</u>	<u>.072</u>	<u>160</u>	<u>360</u>	<u>Armature</u>	<u>paper L.C. & A.</u>
	(4 pole change over switch fitted to connect either motor to circuit)						<u>360 Field</u>		
	WIRELESS	<u>one</u>	<u>.01</u>	<u>7</u>	<u>.044</u>	<u>9</u>	<u>460</u>	<u>V.I.R.</u>	<u>L.C. A & B.</u>
	SEARCHLIGHT	<u>one</u>	<u>.04</u>	<u>19</u>	<u>.052</u>	<u>60</u>	<u>840</u>		
	MASTHEAD LIGHT	<u>one</u>	<u>.03</u>						
	SIDE LIGHTS	<u>seven</u>							
	COMPASS LIGHTS								
	POOP LIGHTS								
	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. 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								

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 4-3-30.

COMPASSES.

Distance between electric generators or motors and standard compass 200 ft.

Distance between electric generators or motors and steering compass 200 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 10 feet from standard compass 6 feet from steering compass.

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

For FURNISHING SHIPBUILDING CO. LTD.

J. M. Govers Builder's Signature.

Date 6-3-30.

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.)

The materials and workmanship are good.
This electric installation has been fitted under special survey in accordance with the Rules and is, in my opinion, suitable for a vessel classed with this Society.

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

4/4/30.

Total Capacity of Generators 50 Kilowatts.

The amount of Fee ... £ 27-10-0 When applied for, 27-2-1930
Travelling Expenses (if any) £ : : When received, 3-2-1930

P. J. Mac
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Lt



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