

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 31 AUG 1927

Date of writing Report 30-8-1927 When handed in at Local Office 10 Port of Dun dee

No. in Survey held at Dun dee Date, First Survey 30-6-27 Last Survey 23-8-1927
 (Number of Visits.....)

Reg. Book. 41762 on the T.S.S. "MARLOWE" Tons { Gross 812.83
 Net

Built at Dun dee By whom built Caledon S.B. & Eng. Co. Ltd Yard No. 307 When built 1927

Owners Wallasey Corporation Port belonging to Liverpool

Electric Light Installation fitted by Caledon S.B. & Eng. Co. Ltd Contract No. 307 When fitted

System of Distribution 2 WIRE

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 is an adjustable regulating resistance fitted in series with each shunt field

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 Forward Engine Room Bulkhead, Starboard.

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 Yes

and are the generators protected from mechanical injury and damage from water, steam or oil Yes

are their axes of rotation fore and aft No, all watertights, due to lack of space

Earthing, are the bed-plates 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 Forward Engine Room Bulkhead, Starboard.

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 micaite 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 D.P. Main Switch and fuses; 7 D.P. 30 amp. switches with fuses; Pilot lamp with switch & fuses; Lamp earth testing set with switch & fuses.

Instruments on main switchboard One ammeter, 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 Lamps

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 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

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 Galvanised Iron & Brass Saddles. Protected by Galvanised Pipe

If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screws of brass Yes, are the cables run in separate grooves Yes. 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 Yes

Joints in Cables, state if any, and how made, insulated, and protected Yes

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 Copper strip from headplate of Generator to hull, Switchboard frame to hull. Area of Copper .125", 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 Yes

Navigation Lamps, are these separately wired Yes, controlled by separate switches 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 Yes Protected by iron guards.

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 Yes

where are the controlling switches situated Yes

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

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

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 Yes, if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes and Yes

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>One</u>	<u>11</u>	<u>110</u>	<u>100</u>	<u>375</u>	<u>Steam Engine</u>	<u>Yes</u>	<u>Yes</u>
AUXILIARY ...	<u>Yes</u>							
EMERGENCY ...	<u>Yes</u>							
ROTARY TRANSFORMER	<u>Yes</u>							

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>2</u>	<u>.1009</u>	<u>19</u>	<u>.083</u>	<u>70</u>	<u>12</u>	<u>Rubber</u>	<u>Lead Covered</u>
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	<u>2</u>	<u>.00701</u>	<u>7</u>	<u>.036</u>	<u>15</u>	<u>25</u>	<u>Rubber</u>	<u>Lead Covered</u>
	BOILER ROOM								<u>Armoured & Braided</u>
	ACCOMMODATION								
	General Saloon	<u>2</u>	<u>.00701</u>	<u>7</u>	<u>.036</u>	<u>15</u>	<u>40</u>	<u>Rubber</u>	<u>Lead Covered</u>
	Living Deck	<u>2</u>	<u>.00701</u>	<u>7</u>	<u>.036</u>	<u>6</u>	<u>40</u>	<u>Rubber</u>	<u>Lead Covered</u>
	Forward Saloon	<u>2</u>	<u>.00701</u>	<u>7</u>	<u>.036</u>	<u>20</u>	<u>80</u>	<u>Rubber</u>	<u>Lead Covered</u>
	Low Space	<u>2</u>	<u>.00701</u>	<u>7</u>	<u>.036</u>	<u>4</u>	<u>90</u>	<u>Rubber</u>	<u>Lead Covered</u>
	Galley Lights	<u>2</u>	<u>.00701</u>	<u>7</u>	<u>.036</u>	<u>4</u>	<u>80</u>	<u>Rubber</u>	<u>Lead Covered</u>
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT...	<u>2</u>	<u>.00194</u>	<u>3</u>	<u>.029</u>	<u>1</u>	<u>75</u>	<u>Rubber</u>	<u>Lead Covered.</u>
	SIDE LIGHTS ...	<u>2</u>	<u>.00194</u>	<u>3</u>	<u>.029</u>	<u>1</u>	<u>45</u>	<u>Rubber</u>	<u>Lead Covered</u>
	COMPASS LIGHTS ...	<u>2</u>	<u>.00194</u>	<u>3</u>	<u>.029</u>	<u>4</u>	<u>25</u>	<u>Rubber</u>	<u>Lead Covered</u>
	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 ...	<u>4</u>	<u>.00194</u>	<u>3</u>	<u>.019</u>	<u>1.7</u>	<u>40</u>	<u>Rubber</u>	<u>Lead Covered.</u>
	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.

Wm Gillanders Electrical Engineers. Date 30-8-27

COMPASSES.

Distance between electric generators or motors and standard compass 50 ft.
 Distance between electric generators or motors and steering compass 50 ft.
 The nearest cables to the compasses are as follows:—
 A cable carrying .25 Amperes 5 feet from standard compass 5 feet from steering compass.
 A cable carrying .25 Amperes 8 feet from standard compass 8 feet from steering compass.
 A cable carrying .25 Amperes 8 feet from standard compass 8 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 0 degrees on Any course in the case of the standard compass, and 0 degrees on Any course in the case of the steering compass.

Builder's Signature. Date 30/8/27
Wm Gillanders

Is this installation a duplicate of a previous case Yes If so, state name of vessel T.S.S. "Wallasey"

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 and workmanship are good. The installation has been examined under full working conditions and found satisfactory.)

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

J. S. Thomas
 1927

Total Capacity of Generators 10 Kilowatts.

The amount of Fee ... £ 10 : 0 :
 Travelling Expenses (if any) £ ✓ :
 When applied for, ... 19...
 When received, 20-9-27

Glen. J. Thomas
 Surveyor to Lloyd's Register of Shipping.

FRI. 16 MAR 1928

Im. 1.26. Transfer. (The Surveys are requested not to write on or back to the space for Committee's Minute.)

Committee's Minute REC. 30 SEP 1927
 Assigned elec Lt



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