

Rpt. 13.

No. 19017.

**REPORT ON ELECTRIC FITTINGS.**

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

20 FEB 1936

Date of writing Report 19/2/1936 When handed in at Local Office 19/2/1936 Port of LeithNo. in Survey held at Burntisland Date, First Survey 19/12/35 Last Survey 13/2/1936  
Reg. Book. 38116 on the S/S "FULHAM" (Number of Visits 5)Built at Burntisland By whom built Burntisland SBC Ltd Yard No. 193 When built 1936Owners Fulham Borough Council Port belonging to LondonElectric Light Installation fitted by Burntisland SBC Ltd Contract No. 193 When fitted 1936Is the Vessel fitted for carrying Petroleum in bulk NoSystem of Distribution Two wire local & returnPressure 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 YesGenerators, do they comply with the requirements regarding rating Yes, are they compound wound Yesare 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 YesPosition of Generators Starboard side engine roomis the ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yesif situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators 3'-6" Horiz; and ✓, are the generators protected from mechanical injury and damage from water, steam or oil Yesare their axes of rotation fore and aft YesEarthing, are the bedplates and frames of the generating plant efficiently earthed Bolted direct to earth are the prime movers and their respective generators in metallic contact YesMain Switch Boards, where placed Starboard side engine roomIf 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 Yesare 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 3'-6" and ✓are they constructed wholly of durable, non-ignitable non-absorbent materials Sendanyo Panel, 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 Bolted direct to earth 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 YesMain Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches one 100 amp DP main switch & DP main fuses & 20 amp SP switch & DP fuses for outgoing circuitsInstruments on main switchboard one ammeters one 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 Earth lamps.Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YesJoint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes

002659-002666-00991/2

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Lloyd's Register  
Foundation



Cables: Single, twin, concentric, or multicore 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 *3 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 *✓*

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 *Supported in wood cable racks, also metal clips secured with screws. Machinery spaces & damp situations L.C. & W.A. Accom. L.C. Other places W.A.*

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 *Standard junction boxes.*

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 *Switchboard frame & Dynamo seat bolted direct to earth & brass bonding clips for earthing metallic sheathing of all cables*, 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 *✓*

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 *✓*, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *✓*, 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 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN ...	One	7.5	110	68	500	Steam engine			
AUXILIARY ...									
EMERGENCY ...									
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	.0600	19	.064	42.5	83✓	18	Rubber	LC & WA
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER } MOTOR GENERATOR...						16✓			
ENGINE ROOM...	one	.0045	7	.029	7	17.5✓	14	—"	—"
BOILER ROOM...									
AUXILIARY SWITCHBOARDS									
Navigation	one	.0070	7	.036	2	22✓	360	—"	S.W.A.
ACCOMMODATION Saloon	one	.0100	7	.044	12.5	26✓	360	—"	—"
Engineers	one	.0045	7	.029	11	17.5✓	100	—"	—"
RADIO TELEPHONE	one	.0070	7	.036	10	22✓	380	—"	S.W.A.
SEARCHLIGHT									
MASTHEAD LIGHT	one	.0020	3	.029	.36	7.8✓	160	—"	S.W.A.
SIDE LIGHTS	one	.0020	3	.029	.36	7.8✓	66	—"	L.C.
COMPASS LIGHTS	one	.0020	3	.029	.36	7.8✓	30	—"	L.C.
POOP LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
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 THE BURNTISLAND SHIPBUILDING COMPANY LTD.

Electrical Engineers.

Date

*W. J. Dyer*  
MANAGING DIRECTOR.

#### COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying .36 Ampères 7" feet from standard compass 7" feet from steering compass.

A cable carrying Ampères feet from standard compass 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

any

course in the case of the standard

compass, and nil degrees on

any

course in the case of the steering compass.

FOR THE BURNTISLAND SHIPBUILDING COMPANY LTD.

*W. J. Dyer*  
MANAGING DIRECTOR.

Builder's Signature.

Date

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

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.

Total Capacity of Generators 7.5 Kilowatts.

The amount of Fee ... £ 8 : 0 : 0

When applied for,

17-2-1936

Travelling Expenses (if any) £

✓

When received,

2-4-1936

4/4  
3/4

*Chas. R. Rawcliffe*  
Surveyor to Lloyd's Register Shipping.

Committee's Minute

FRI. 21 FEB 1936

FRI. 6 MAR 1936

Assigned

*See minute on  
J.E. Rpt.*