

Rpt. 13.

No. 17904.

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 30 OCT 1930

Date of writing Report

19

When handed in at Local Office

19

Port of SUNDERLANDNo. in Survey held at SUNDERLANDDate, First Survey Oct 15 Last Survey Oct 23 1930

Reg. Book.

(Number of Visits.....4.....)

92677 on the SS. TOLWORTHTons { Gross  
NetBuilt at BURNTISLANDBy whom built BURNTISLAND S.B. CO. LTD Yard No.When built 1930Owners WANDSWORTH, WIMBLEDON & EPSOM DISTRICT GAS CO Port belonging to LONDONElectric Light Installation fitted by BURNTISLAND S.B. CO. LTD

Contract No.

When fitted 1930Is the Vessel fitted for carrying Petroleum in bulk No

## System of Distribution

Pressure of supply for Lighting

110

volts, Heating

volts, Power

volts.

Direct or Alternating Current, Lighting

DirectPower

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

Starboard SideEngine 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

and

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

are their axes of rotation fore and aft

Yes

Earthing, 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

Yes

Main Switch Boards, where placed

Starboard Side 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

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

Synchr no Panel

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

Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

1 D.P. Main.Switch ~~and fuses~~ and D.P. fuses <sup>for mains</sup> and S.P. Switches and D.P. Fusesfor outgoing circuits

Instruments on main switchboard

one

ammeters

one

volts meters

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

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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Foundation

010589-010604-0371 1/2



**Cables:** Single, twin, ~~concentric~~, or multi-core 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 *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 *See. Lead covered.*

**Machinery Space L.C. & W.A. Elsewhere W.A. with brass & metal clips & screws.** 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 *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 *Dynamo Bedplate & Switchboard frame & armour on cable bolted direct to earth.* 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 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 *Yes*, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *Yes*, how are the cables led *Yes*, where are the controlling switches situated *Yes*

**Searchlight Lamps, No. of** *1*, whether fixed or portable *Yes*, are their fittings as per Rule *Yes*

**Are Lamps,** other than searchlight lamps, No. of *1*, 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.							WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
DESCRIPTION OF GENERATOR.	No. of	Kilowatts.	RATED AT		Revs. per Min.	DRIVEN BY	Fuel Used.	Flash Point of Fuel.
			Volts.	Ampères.				
MAIN	1	3	110	27.2	400	Open Type 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	2	.0145	7	.052	15	37.37	18	Rubber	L.C. & W.A.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR									
ENGINE ROOM	2	.0045	7	.029	5	17.5	4	Rubber	L.C. & W.A.
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION	2	.0045	7	.029	7	17.5	250	Rubber	Wire Armoured
Navigation	2	.0030	3	.036	3	12.0	260	Rubber	Wire Armoured
WIRELESS									
SEARCHLIGHT	2	.0020	3	.029	.36	7.8	160	Rubber	Wire Armoured
MASTHEAD LIGHT	2	.0020	3	.029	.36	7.8	40	Rubber	Lead Covered
SIDE LIGHTS	2	.0020	3	.029	.18	7.8	40	Rubber	Lead Covered
COMPASS LIGHTS									
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 25<sup>th</sup> October 1930.

#### COMPASSES.

Distance between electric generators or motors and standard compass

120'-0"

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 18 Ampères 7" feet from standard compass 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.

Builder's Signature.

Date 25<sup>th</sup> October 1930.

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 under special survey and has been tested under full working conditions.  
The materials & workmanship are good and sound.

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

30/10/30

Total Capacity of Generators 3 Kilowatts.

The amount of Fee ... £ 5 : 0 0

When applied for,  
21-10-1930.

Travelling Expenses (if any) £ :

When received,  
1.12.30

L.C. Clayton.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Lt



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