

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 20 Nov 1929

Date of writing Report 19.8.1929 When handed in at Local Office 19.8.1929 Port of Middlesbrough

No. in Survey held at Hawerton Hall on Ties Date, First Survey 10th May Last Survey 8.8.1929
Reg. Book. (Number of Visits... 2)

14708 on the Motor Vessel "Aothelcrown" Tons { Gross 11999
Net 7073

Built at Hawerton Hall/Ties By whom built Furness Shipbuilding Co Ltd Yard No. 137 When built 1929

Owners British Maltsters Co Ltd Port belonging to Liverpool

Electric Light Installation fitted by Furness Shipbuilding Co Ltd Contract No. 137 When fitted 1929

System of Distribution Double 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 *yes* ✓

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 *aft end of Machinery Space*, 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 *aft end of Machinery Space 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 *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 circuit Breaker for each Generator, Double pole Switch of fuses for each outgoing circuit. Lead type fuses*

Instruments on main switchboard 3 ammeters 2 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 *2.10 watt lamps in series middle point earthed*

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 + twin* are the cables insulated and protected as per Tables IV or V of the Rules IV

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 3.5v.

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 *Main feeder cables are run along the underside of fore + aft gangway in galv iron casing.*

Support and Protection of Cables, state how the cables are supported and protected *Lead covered + Armoured cables are supported by means of galv iron clips. Lead covered cables supported by brass clips*

If cables are run in wood casings, are the casings and caps secured by screws yes, 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 yes

Joints in Cables, state if any, and how made, insulated, and protected *Porcelain junction boxes protected with cast iron covers*

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 *Generator . 1
Switchboard . 1*
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 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 pump rooms special gas light fittings
Through galv iron tubes
where are the controlling switches situated *Outside pump room entrance*

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

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 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

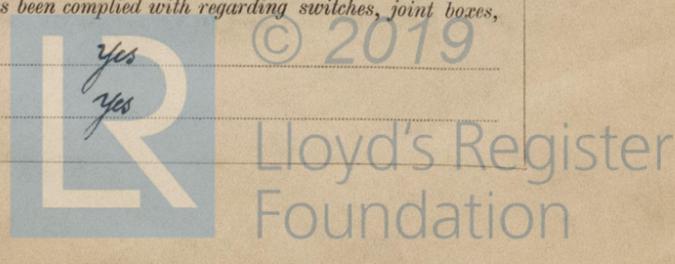
are they protected from mechanical injury and damage from water, steam or oil yes are their axes of rotation fore and aft yes, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type -, if not 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

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



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.

F. W. FURNESS SHIPBUILDING CO. LIMITED

P. S. Glover

Electrical Engineer.

Date *9th Aug 1929*

COMPASSES.

Distance between electric generators or motors and standard compass *230'*

Distance between electric generators or motors and steering compass *220'*

The nearest cables to the compasses are as follows:—

A cable carrying *1* Ampères *4* feet from standard compass *4* feet from steering compass.

A cable carrying *1* Ampères *1* feet from standard compass *1* feet from steering compass.

A cable carrying *1* Ampères *1* feet from standard compass *1* 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.

F. W. FURNESS SHIPBUILDING CO. LIMITED
J. M. Gover

Builder's Signature.

Date *9th Aug 1929*

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 Approved Plans and has been tested with satisfactory results under working conditions 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
YRM*

21.8.29

Total Capacity of Generators *70* Kilowatts.

The amount of Fee ... *£29-10-0* *14.8.29*

When applied for,

Travelling Expenses (if any) £ : : *2.9.29*

When received,

P. J. Man

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Elec. Light*

Im. 228.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

