

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) MON. 20 JUL 1925

Date of writing Report 16 July 1925 When handed in at Local Office 10 Port of HAMBURG  
 No. in Survey held at HAMBURG Date, First Survey 28<sup>th</sup> MARCH Last Survey 29<sup>th</sup> June 1925  
 Reg. Book. on the Steel Twin S.C. Motor V. "AMERIKALAND" (Number of Visits 7)  
 Built at HAMBURG By whom built DEUTSCHE WERFT A.G. Yard No. 50 Tons { Gross 15339  
 Net 4872  
 When built 1925  
 Owners AXEL BROSTRÖM & SON Port belonging to GOTHENBURG.  
 Electric Light Installation fitted by DEUTSCHE WERFT A.G. Contract No. When fitted 1925

System of Distribution 2 wire 4 conductor system  
 Pressure of supply for Lighting 110 volts, Heating volts, Power 230 volts.  
 Direct or Alternating Current, Lighting Direct current. Power Direct current.  
 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  
 Generators, do they comply with the requirements regarding overload  
 are they over compounded 5 per cent. 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 and clearly marked are they so spaced or shielded that they cannot be accidentally earthed, or short circuited  
 Are the lubricating arrangements of the generators as per Rule  
 Position of Generators Engine room aft, elevated platform  
 is the ventilation in way of the generators satisfactory are they clear of all inflammable material  
 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 axis of rotation fore and aft  
 Earthing, are the bedplates and frames of the generating plant efficiently earthed are the prime movers and their respective generators in metallic contact  
 Main Switch Boards, where placed Engine room aft, elevated platform  
 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  
 are they protected from mechanical injury and damage from water, steam or oil 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, incombustible non-absorbent materials is all insulation of high dielectric strength and of permanently high insulation resistance if semi-insulating material is used, are all conducting parts connected to one pole insulated from the slab with mica or micamite and the slab similarly insulated from its framework and is the frame effectively earthed  
 Are the following fittings as per Rule, viz.:— spacing or shielding of live parts  
 accessibility of all parts absence of fuses on back of board 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. proportion of omnibus bars individual fuses to voltmeter, pilot or earth lamp connections of switches  
 Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches For each generator: a circuit breaker with overload and reverse current trips and a single pole equalizer switch, interlocked with the circuit breaker. For each circuit: a single pole switch on one pole and a fuse on each pole.  
 Instruments on main switchboard 8 ammeters 3 voltmeters 3 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 voltmeter with Ohm scale.  
 Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules  
 Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule



*The German Standards have been applied*

**Insulation of Cables,** state type of cables, single or twin *single wires* are the cables insulated and protected as per Tables III or IV of the Rules *generally*

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load *at the 3 volt. in. press. 2 volt. 6 ins.*

**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.007 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 *no paper insulated cables*

**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 *armoured, cable or duct carried in, in channel for*

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 VI *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 *watertight joint 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 Positions,** 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 *2 wire insulated system*  
are their connections made as per Rule

**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*, are separate screens provided for the use of oil and electric side lights *yes*  
are separate oil lanterns provided for the mast head lights and side lights *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 *no*  
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

where are the controlling switches situated

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

**Are Lamps, other than searchlight lamps, No. of** *0*, are their live parts insulated from the frame or case *yes*, 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 axis 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

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed as per Rule *yes*

**Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule *See Mark*

**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.<br><i>each</i> | Volts. | Amperes. | Revs. per Min. |                                  | Fuel Used.                                     | Flash Point of Fuel. |
| MAIN ... ..                      | 3      | 100                       | 225    | 145      | 300            | 3 cyl. H.P. S. V. Diesel engine  | Diesel gas oil.                                | 170° F.              |
| AUXILIARY ...                    |        |                           |        |          |                |                                  |  |                      |
| EMERGENCY ...                    |        |                           |        |          |                |                                  |  |                      |
| ROTARY <i>Light</i>              | 1      | 30                        | 115    | 113.     | 1400.          | Vertical, 22.5 H.P. 220 V. 1939. | 1400 rev. per min.                             |                      |
| TRANSFORMER                      | 1      | 0.75                      | 220    | 3.4.     | 2000-4500      | " " 220 V. 50 Hz. 2000-4500      | " "  |                      |

| Ref. No. | DESCRIPTION.                     | No. of<br>Conductors.<br><i>(Lead &amp; Return)</i> | Effective Area<br>of each<br>Conductor,<br>Sq. Ins. | COMPOSITION OF<br>STRAND. |           | Total<br>Maximum<br>Current,<br>Amperes. | Approximate<br>Length,<br>(Lead and Return,<br>Feet. Eac.) | Insulated with | HOW PROTECTED.                   |
|----------|----------------------------------|---|---|---------------------------|-----------|--|--|----------------|----------------------------------|
|          |                                  |   |   | No.                       | Diameter. |  |  |                |                                  |
|          | MAIN GENERATOR... ..             | 2 x 2   | 2 x 240 ✓   | 61                        | 2.25      | 445                                      | 12   |                |                                  |
|          | AUXILIARY GENERATOR ... ..       |   |   |                           |           |  |  |                |                                  |
|          | EMERGENCY GENERATOR ... ..       |   |   |                           |           |  |  |                |                                  |
|          | ROTARY TRANSFORMER... ..         | 2   | 185 ✓   | 37                        | 2.05      | 113                                      | 15   |                |                                  |
|          | AUXILIARY SWITCHBOARDS ... ..    | <i>see below.</i>                                   |   |                           |           |  |  |                |                                  |
|          | ENGINE ROOM ... ..               | 2   | 2.5 ✓   | 1                         | 1.8       | 15                                       | 50   |                |                                  |
|          | BORDER ROOM ... ..               | 2   | 2.5 ✓   | 1                         | 1.8       | 15                                       | 60   |                |                                  |
|          | <i>After ships Port</i>          | 2   | 35 ✓  | 19                        | 1.55      | 75                                       | 15   |                |                                  |
|          | <i>" " Stb.</i>                  | 2   | 35 ✓  | 19                        | 1.55      | 75                                       | 15   |                |                                  |
|          | <i>Midships &amp; Fore ships</i> | 2   | 120 ✓   | 37                        | 2.05      | 172                                      | 108  |                |                                  |
|          | <i>Bridge House</i>              | 2   | 35 ✓  | 19                        | 1.55      | 75                                       | 112.   |                |                                  |
|          | <i>Navigation Sps Controls</i>   | 2   | 10 ✓  | 7                         | 1.35      | 36                                       | 120.   | <i>rubber.</i> | <i>lead covered and armored.</i> |
|          | WIRELESS ... ..                  | 2   | 10 ✓  | 7                         | 1.35      | 36                                       | 135  |                |                                  |
|          | SEARCHLIGHT ... ..               | 2   | 10 ✓  | 7                         | 1.35      | 36                                       | 140  |                |                                  |
|          | MASTHEAD LIGHT... ..             | 2   | 1.5 ✓   | 1                         | 1.4       | 9  | 80 - 65  |                |                                  |
|          | SIDE LIGHTS... ..                | 2   | 1.5 ✓   | 1                         | 1.4       | 9  | 15   |                |                                  |
|          | COMPASS LIGHTS ... ..            | 2   | 1.5 ✓   | 1                         | 1.4       | 9  | 6  |                |                                  |
|          | POOP LIGHTS ... ..               | 2   | 1.5 ✓   | 1                         | 1.4       | 9  | 126  |                |                                  |
|          | CARGO LIGHTS <i>portable</i>     | 2   | 2.5 ✓   | 30                        | 0.25      | 9  | 30   |                | <i>braided.</i>                  |
|          | ARC LAMPS <i>fixed</i>           | 2   | 1.5 ✓   | 1                         | 1.4       | 9  | 126  |                | <i>lead covered and armored.</i> |
|          | HEATERS ... ..                   | 2   | 16 ✓  | 7                         | 1.7       | 50                                       | 20   |                |                                  |

| Ref. No. | DESCRIPTION.                | No. of Motors. | Effective Area of each Conductor, Sq. Mm. | COMPOSITION OF STRAND. |           | Total Maximum Current, Amperes. | Approximate Length, (Lead and Return.) Feet. Mm. | Insulated with | HOW PROTECTED.            |
|----------|-----------------------------|----------------|---|------------------------|-----------|---------------------------------|--|----------------|---------------------------|
|          |                             |                |   | No.                    | Diameter. |                                 |  |                |                           |
|          | BALLAST PUMP ... ..         | 1              | 25  | 7                      | 1.7       | 52.5                            | 35   |                |                           |
|          | MAIN BILGE LINE PUMPS       | 3              | 25  | 7                      | 1.7       | 52.5                            | 35   |                |                           |
|          | GENERAL SERVICE PUMP        | 1              | 25  | 7                      | 1.7       | 52.5                            | 35   |                |                           |
|          | EMERGENCY BILGE PUMP        | 1              | 25  | 7                      | 1.7       | 52.5                            | 35   |                |                           |
|          | SANITARY PUMP ... ..        | 1              | 25  | 7                      | 1.7       | 52.5                            | 35   |                |                           |
|          | CIRC. SEA WATER PUMPS       | 2              | 40  | 19                     | 2.15      | 110                             | 40   |                |                           |
|          | CIRC. FRESH WATER PUMPS     | 1              | 35  | 19                     | 1.55      | 93                              | 35   |                |                           |
|          | AIR COMPRESSOR ... ..       | 1              | 2.5                                       | 1                      | 1.8       | 6.6                             | 30   |                |                           |
|          | FRESH WATER PUMP ... ..     | 2              | 16  | 7                      | 1.7       | 34                              | 20   |                |                           |
|          | ENGINE TURNING GEAR         | 1              | 25  | 7                      | 1.7       | 52.5                            | 35   |                |                           |
|          | ENGINE REVERSING GEAR       | 1              | 25  | 7                      | 1.7       | 52.5                            | 35   |                |                           |
|          | LUBRICATING OIL PUMPS       | 2              | 25  | 7                      | 2.1       | 53.5                            | 12   |                |                           |
|          | OIL FUEL TRANSFER PUMP      | 1              | 35  | 19                     | 1.55      | 93                              | 35   | rubber         | lead covered and armored. |
|          | WINDLASS ... ..             | 2              | 120                                       | 37                     | 2.05      | 320                             | 10   |                |                           |
|          | WINCHES, FORWARD            | 3              | 25  | 7                      | 2.1       | 47                              | 25-25  |                |                           |
|          | WINCHES, AFT                | 3              | 25  | 7                      | 2.1       | 47                              | 35-48-60   |                |                           |
|          | STEERING GEAR ... ..        | 2              | 120                                       | 37                     | 2.05      | 226                             | 36   |                |                           |
|          | WORKSHOP MOTOR              | 1              | 4   | 1                      | 2.25      | 11                              | 25   |                |                           |
|          | VENTILATING FANS ... ..     | 1              | 35  | 19                     | 1.55      | 71                              | 12   |                |                           |
|          | CO <sub>2</sub> Compressor. | 1              | 10  | 7                      | 1.35      | 32.5                            | 30   |                |                           |
|          | Emergency Oil Fuel pump     | 1              | 2.5                                       | 1                      | 1.8       | 6.6                             | 10   |                |                           |
|          | Emergency Oil Fuel pump     | 1              | 2.5                                       | 1                      | 1.8       | 10                              | 10   |                |                           |
|          | Oil Separator.              | 2              | 2.5                                       | 1                      | 1.8       | 11                              | 18   |                |                           |
|          | Large winches forward       | 4              | 95  | 19                     | 2.5       | 200                             | 12-18  |                |                           |
|          | " " aft                     | 4              | 95  | 19                     | 2.5       | 200                             | 25-35  |                |                           |
|          | Ballast pumps               | 2              | 400                                       | 61                     | 2.9       | 376                             | 20   |                |                           |
|          | " "                         | 2              | 95  | 19                     | 2.5       | 117                             | 20   |                |                           |
|          | Oil pump, in Pump room      | 1              | 35  | 19                     | 1.55      | 93                              | 20   |                |                           |
|          | Motor, Rotary Transformer   | 1              | 120                                       | 37                     | 2.05      | 123                             | 15   |                |                           |



