

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 30<sup>th</sup> Sept. 1933 When handed in at Local Office

Port of Hamburg Date, First Survey 17. Jan. 33 Last Survey 21<sup>st</sup> Sept. 1933 (Number of Visits 2)

No. in Survey held at Hamburg Reg. Book.

on the M.V. "D.L. Harper" (oil engine)

Tons { Gross 72336 Net 7020 When built 1933.

Built at Hamburg By whom built Deutsche Werft A.G. Yard No. 149 Danzig.

Owners Baltisch. amerik. Petroleum Import Ges. Port belonging to Electric Light Installation fitted by Allgemeine Elek. Ges. [A.E.G. Berlin] Contract No. 82565 When fitted 1933.

Is the Vessel fitted for carrying Petroleum in bulk yes.

System of Distribution Two wire, two conductor system. Pressure of supply for Lighting 770 volts, Heating 770 volts, Power direct

Direct or Alternating Current, Lighting 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

Position of Generators Engine Room, starb. side, lower working platform. Are the lubricating arrangements of the generators as per Rule yes, are they clear of all inflammable material yes

is the ventilation in way of the generators satisfactory yes, are the generators 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 generators

are their axes of rotation fore and aft yes, are the generators protected from mechanical injury and damage from water, steam or oil yes, are the prime movers and Earthing, are the bedplates and frames of the generating plant efficiently earthed yes

Main Switch Boards, where placed Engine Room, starb. side, lower working 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 yes

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards

are they protected from mechanical injury and damage from water, steam or oil 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, are the fittings as per Rule regarding: - spacing or shielding of live parts and is the frame effectively earthed yes, absence of fuses on back of board yes, proportion of omnibus bars yes, accessibility of all parts yes, connections of switches yes

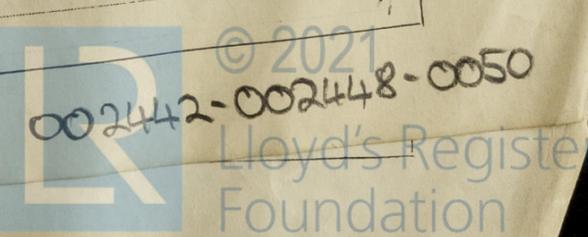
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches. 1) Generator: - a fuse on each pole and a double pole, linked switch. 2) For each outgoing circuit: - a fuse on each pole and a double change over switch.

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 Lamp alarm arrangement and Voltmeter

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.



except small areas *The German standards have been applied*

Cables: Single, ~~twisted~~ concentric, or multi-core *yes* are the cables insulated and protected as per Tables IV or V of the Rules *generally*

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 *none fitted*

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 cables clipped, on deck armoured cables running in sheet iron troughs*

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 *gas tight 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 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 *asbestos*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *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 *none*

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 *none*

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*, *Lamps of the pump rooms are situated in gastight pockets which are fitted outside of the steel deck house. No cable pass through the pump rooms where are the controlling switches situated in bridge house*

Searchlight Lamps, No. of *7*, whether fixed or portable *fixed*, are their fittings as per Rule *yes*

Are Lamps, other than searchlight lamps, No. of *4*, 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*

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 *none*

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                             | 2      | each 20 Kw | 115    | 174      | 375            | Steam Engine |  |                      |  |
| AUXILIARY                        |        |            |        |          |                |              |  |                      |  |
| EMERGENCY                        |        |            |        |          |                |              |  |                      |  |
| ROTARY TRANSFORMER               |        |            |        |          |                |              |  |                      |  |

| DESCRIPTION.                       | CONDUCTORS.   |  | COMPOSITION OF STRAND. |                 | TOTAL MAXIMUM CURRENT. AMPERES. |       | Approximate Length. (Lead and Return) Feet. 771 | Insulated with | HOW PROTECTED.            |
|------------------------------------|---------------|--|------------------------|-----------------|---------------------------------|-------|---|----------------|---------------------------|
|                                    | No. per Pole. | Total Effective Area per Pole Sq. Ins. mm <sup>2</sup> | No.                    | Diameter. in. # | In Circuit.                     | Rule. |   |                |                           |
| MAIN GENERATOR                     | 7             | 120  | 61                     | 1.59            | 173                             |       | 12  | rubber         | Lead covered and armoured |
| EQUALISER CONNECTIONS              |               |  |                        |                 |                                 |       |   |                |                           |
| AUXILIARY GENERATOR                |               |  |                        |                 |                                 |       |   |                |                           |
| EMERGENCY GENERATOR                |               |  |                        |                 |                                 |       |   |                |                           |
| ROTARY TRANSFORMER MOTOR GENERATOR | 1             | 16   | 19                     | 1.04            | 30                              |       | 100   | "              | "                         |
| ENGINE ROOM                        |               |  |                        |                 |                                 |       |   |                |                           |
| BOILER ROOM                        |               |  |                        |                 |                                 |       |   |                |                           |
| AUXILIARY SWITCHBOARDS             |               |  |                        |                 |                                 |       |   |                |                           |
| Upper deck aft                     | 1             | 16   | 19                     | 1.04            | 25                              |       | 24  | "              | "                         |
| Upper deck aft                     | 1             | 16   | 19                     | 1.04            | 6                               |       | 8   | "              | "                         |
| Bridge deck                        | 1             | 70   | 37                     | 1.55            | 125                             |       | 220   | "              | "                         |
| Upper deck fore.                   | 1             | 4  | 19                     | 0.52            | 10                              |       | 120   | "              | "                         |
| Nav. lamps                         | 7             | 4  | 19                     | 0.52            | 2                               |       | 18  | "              | "                         |
| ACCOMMODATION                      |               |  |                        |                 |                                 |       |   |                |                           |
| Spare connection                   | 7             | 120  | 61                     | 1.59            | 173                             |       | 30  | "              | "                         |
| WIRELESS                           | 1             | 16   | 19                     | 1.04            | 35                              |       | 20  | "              | "                         |
| SEARCHLIGHT                        | 1             | 4  | 19                     | 0.52            | 10                              |       | 20  | "              | "                         |
| MASTHEAD LIGHT                     | 2             | 2.5  | 7                      | 0.75            | 0.7                             |       | 250   | "              | "                         |
| SIDE LIGHTS                        | 2             | 1.5  | 1                      | 1.38            | 0.7                             |       | 50  | "              | "                         |
| COMPASS LIGHTS                     | 3             | 1.5  | 1                      | 1.38            | 0.7                             |       | 50  | "              | "                         |
| POOP LIGHTS                        | 1             | 2.5  | 7                      | 0.75            | 0.35                            |       | 240   | "              | "                         |
| CARGO LIGHTS                       | 2             | 2.5  | 7                      | 0.75            | 9.00                            |       | 100   | "              | "                         |
| ARC LAMPS                          |               |  |                        |                 |                                 |       |   |                |                           |
| HEATERS                            |               |  |                        |                 |                                 |       |   |                |                           |

| DESCRIPTION.              | No. of Motors. | CONDUCTORS.   |  | COMPOSITION OF STRAND. |                | TOTAL MAXIMUM CURRENT. AMPERES. |       | Approximate Length. (Lead and Return) Feet. 771 | Insulated with | HOW PROTECTED.            |
|---------------------------|----------------|---------------|--|------------------------|----------------|---------------------------------|-------|---|----------------|---------------------------|
|                           |                | No. per Pole. | Total Effective Area per Pole Sq. Ins. mm <sup>2</sup> | L No.                  | Diameter. mm # | 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            | 1              | 1             | 4  | 19                     | 0.52           | 16                              |       | 20  | rubber         | Lead covered and armoured |
| FRESH WATER PUMP          | 2              | 1             | 35   | 19                     | 1.53           | 85                              |       | 60  | "              | "                         |
| ENGINE TURNING GEAR       |                |               |  |                        |                |                                 |       |   |                |                           |
| ENGINE REVERSING GEAR     |                |               |  |                        |                |                                 |       |   |                |                           |
| LUBRICATING OIL PUMPS     | 1              | 1             | 4  | 19                     | 0.52           | 10                              |       | 8   | "              | "                         |
| OIL FUEL TRANSFER PUMP    |                |               |  |                        |                |                                 |       |   |                |                           |
| WINDLASS                  |                |               |  |                        |                |                                 |       |   |                |                           |
| WINCHES, FORWARD          |                |               |  |                        |                |                                 |       |   |                |                           |
| oil separator             | 7              | 1             | 4  | 19                     | 0.52           | 16                              |       | 8   | "              | "                         |
| WINCHES, AFT              |                |               |  |                        |                |                                 |       |   |                |                           |
| Refrig. machine           | 1              | 1             | 25   | 19                     | 1.3            | 60                              |       | 20  | "              | "                         |
| STEERING GEAR             |                |               |  |                        |                |                                 |       |   |                |                           |
| (a) MOTOR GENERATOR       | 1              | 1             | 4  | 19                     | 0.52           | 16                              |       | 40  | "              | "                         |
| (b) MAIN MOTOR            | 2              | 1             | 4  | 19                     | 0.52           | 16                              |       | 30  | "              | "                         |
| WORKSHOP MOTOR S          | 5              | 1             | 50   | 19                     | 1.83           | 100                             |       | 70  | "              | "                         |
| VENTILATING FAN for stove | 1              | 1             | 50   | 19                     | 1.83           | 100                             |       |   |                |                           |
| Todd-Semi-Automatic       |                |               |  |                        |                |                                 |       |   |                |                           |
| Flame-Control-System      |                |               |  |                        |                |                                 |       |   |                |                           |
| a) Motor Generator        | 1              | 1             | 70   | 37                     | 1.55           | 140                             |       | 40  | "              | "                         |
| b) Fans                   | 2              | 1             | 25   | 19                     | 1.30           | each 60                         |       | 60  | "              | "                         |
| c) Fuel Oil Pumps         | 4              | 1             | 1.5  | 1                      | 1.38           | " 60                            |       | 30  | "              | "                         |
| Refrigerator              | 1              | 1             | 1.5  | 1                      | 1.38           | 8                               |       | 10  | "              | "                         |

E. Telemotor.

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.

ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT  
ABT. 1. SCHIFFBAU  
BAUBUREAU HAMBURG.

Electrical Engineers.

Date 2. Oktober 1933.

COMPASSES.

Distance between electric generators ~~motors~~ and standard compass about 88 m. }  
Distance between electric generators ~~motors~~ and steering compass about 87 m. } double wire.

The nearest cables to the compasses are as follows:—

A cable carrying 0.3 Ampères closed to ~~feet from~~ standard compass closed to ~~feet from~~ steering compass.

A cable carrying ~~feet from~~ Ampères ~~feet from~~ standard compass ~~feet from~~ steering compass.

A cable carrying ~~feet from~~ 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 with

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

The maximum deviation due to electric currents was found to be nil degrees on ~~course~~ course in the case of the standard compass, and nil degrees on ~~course~~ course in the case of the steering compass.

DEUTSCHE WERFT  
AG-GESELLSCHAFT

Builder's Signature.

Date 3.10.1933.

Is this installation a duplicate of a previous case yes If so, state name of vessel M.T. "Franz Klasen"

General Remarks (State quality of workmanship, opinions as to class, &c.)

Material and workmanship of this electric Installation are of good quality. As the conductors used are of the German Standards, the Society's Rules respecting conductors have been applied generally. The installation has been fitted in accordance with the approved plans, the Secretary's letters and in compliance with the Society's Rules. It has given satisfaction under working conditions and is eligible in my opinion to be classed with notation of:—  
"Electric Light."

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

Elec. Light-  
L.H.  
✓ 13/10/33.

Total Capacity of Generators 40 Kilowatts.

The amount of Fee ... £ 25 : 0 : 0  
Travelling Expenses (if any) £ : : 31.10.33

When applied for, 19...  
When received, 31.10.33

M. Selmsdor,  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Lt.



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Lloyd's Register  
Foundation

Im. 9. 90.—Transf. (The Surveyors are requested not to write on or below the space for Committee's Minute.)