

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 17<sup>th</sup> Oct 1927 When handed in at Local Office 10 Port of LENINGRAD Received at London Office.....

No. in Survey held at LENINGRAD Date, First Survey 11<sup>th</sup> March 27 Last Survey 27<sup>th</sup> July 1927  
Reg. Book. SS "TOYARISTCH STALIN" (Number of Visits.....)

Built at LENINGRAD By whom built BALTIC SHIPBUILDING & ENG<sup>g</sup> YARD Yard No. 166 When built 1927  
Owners SOVIET MERCANTILE FLEET Port belonging to LENINGRAD

Electric Light Installation fitted by BALTIC SHIPBUILDING & ENG<sup>g</sup> YARD Contract No. .... When fitted 1927

System of Distribution DOUBLE WIRE  
Pressure of supply for Lighting 220 VOLTS volts, Heating  volts, Power 220 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 NOT EFFICIENT.

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 (2-60 KW. MACHINES) YES, 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 ENGINE ROOM STAR<sup>o</sup> SIDE  
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 NONE and , are the generators protected from mechanical injury and damage from water, steam or oil YES

are their arcs 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 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 NONE 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 micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework MICANITE USED ON FITTINGS

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 NONE, proportion of omnibus bars YES, individual fuses to voltmeter, pilot or earth lamp NO, connections of switches YES

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches EACH 60 KW. GENERATOR HAS TWO SINGLE POLE FUSES AND DOUBLE POLE CIRCUIT BREAKER WITH OVERLOAD & REVERSE TRIPS, EACH GENERATOR IS CONNECTED TO A PAIR OF BUS BARS, FOR CONNECTING EACH PAIR OF BUS BARS IN PARALLEL AND FOR EQUALIZER A TRIPLE POLE SWITCH IS FITTED. AUX. GENERATOR HAS TWO SINGLE POLE FUSES AND DOUBLE POLE SWITCH.

Instruments on main switchboard 7 ammeters 3 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 FRISCH'S SYSTEM

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YES EXCEPT MAIN SWITCHBOARD FUSES

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-DOUBLE~~ are the cables insulated and protected as per Tables IV or V of the Rules Approved 3/12/26

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load WINDLASS AT 100% OVERLOAD 10 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 spouts 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 SEALED WITH GLAND

**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 METAL CLIPS, SHEET-STEEL PLATING AND TUBES WHERE PASSING THROUGH DECKS

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 NONE

**Joints in Cables,** state if any, and how made, insulated, and protected POWER CABLES NONE, LIGHTING 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 LEAD

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas RADIO - 1/20 IN<sup>2</sup>

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 NONE

**Navigation Lamps,** are these separately wired YES, controlled by separate switch and separate fuses YES, are the fuses double pole THE SINGLE, 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 EXCEPT FOR RADIO

**Fittings,** are all fittings on weather decks, in storerooms 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 NONE

how are the cables led YES

where are the controlling switches situated YES

**Searchlight Lamps,** No. of NONE, whether fixed or portable , are their fittings as per Rule

**Arc Lamps,** other than searchlight lamps, No. of NONE, 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 NO

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 NONE 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

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.**

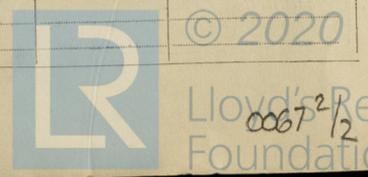
| DESCRIPTION OF GENERATOR. | No. of | RATED AT   |        |       | DRIVEN BY | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. |                      |
|---------------------------|--------|------------|--------|-------|-----------|--|----------------------|
|                           |        | Kilowatts. | Volts. | Amps. |           | Fuel Used.                                     | Flash Point of Fuel. |
| MAIN                      | TWO    | 6000       | 220    | 261   | 300       | STEAM ENGINE                                   |                      |
| AUXILIARY                 | ONE    | 220        | 220    | 300   | 180       | STEAM ENGINE                                   |                      |
| EMERGENCY                 |        |            |        |       |           |  |                      |
| ROTARY TRANSFORMER        |        |            |        |       |           |  |                      |

**LIGHTING AND HEATING CONDUCTORS.**

| Ref. No. | DESCRIPTION.           | No. of Conductors. | Effective Area of each Conductor, Sq. Ins. | COMPOSITION OF STRAND. |           | Total Maximum Current, Amps. | Approximate Length, (Lead and Return), Feet. | Insulated with | HOW PROTECTED. |
|----------|------------------------|--------------------|--|------------------------|-----------|------------------------------|--|----------------|----------------|
|          |                        |                    |  | No.                    | Diameter. |                              |  |                |                |
|          | MAIN GENERATOR         | 4                  | 240 1/2                                    | 9                      | 1/32      | 390                          | 40 NET                                       |                | LEAD COVERED   |
|          | EQUALISER CONNECTIONS  |                    | 240  |                        |           |                              | 10 NET                                       |                | " "            |
|          | AUXILIARY GENERATOR    | 2                  | 22 1/2                                     | 19                     | 1/32      | 546                          | 20   |                | " "            |
|          | EMERGENCY GENERATOR    |                    |  |                        |           |                              |  |                |                |
|          | ROTARY TRANSFORMER     |                    |  |                        |           |                              |  |                |                |
|          | AUXILIARY SWITCHBOARDS | 6                  | 6 1/2                                      | 7                      | 1/32      | 18                           |  |                | LEAD COVERED   |
|          | ENGINE ROOM            |                    | 1 1/2                                      | 7                      | 73/100    | 256                          | 89 NET                                       |                | " "            |
|          | BOILER ROOM            |                    | 1 1/2                                      | "                      | "         | 210                          | 36   |                | " "            |
|          | ACCOMMODATION          |                    | 1 1/2                                      | "                      | "         | 110                          | 8  |                | " "            |
|          | WIRELESS               | 2                  | 16 1/2                                     | 19                     | 1/32      | 20                           | 36 NET                                       |                | LEAD COVERED   |
|          | SEARCHLIGHT            |                    |  |                        |           |                              |  |                |                |
|          | MASTHEAD LIGHTS        | 4                  | 1 1/2                                      | 7                      | 43/100    | 18                           | 125 NET                                      |                | " "            |
|          | SIDE LIGHTS            | 4                  | "  | "                      | "         | 8                            | 30 NET                                       |                | " "            |
|          | COMPASS LIGHTS         | 2                  | "  | "                      | "         | 1                            | 7  |                | " "            |
|          | POOP LIGHTS            | 2                  | "  | "                      | "         | 3                            | 65   |                | " "            |
|          | CARGO LIGHTS           | 4                  | "  | "                      | "         | 6                            | 40   |                | " "            |
|          | ARC LAMPS              |                    |  |                        |           |                              |  |                |                |
|          | HEATERS                |                    |  |                        |           |                              |  |                |                |

**MOTOR CONDUCTORS.**

| Ref. No. | DESCRIPTION.           | No. of Motors. | Effective Area of each Conductor, Sq. Ins. | COMPOSITION OF STRAND. |           | Total Maximum Current, Amps. | Approximate Length, (Lead and Return), Feet. | Insulated with | HOW PROTECTED. |
|----------|------------------------|----------------|--|------------------------|-----------|------------------------------|--|----------------|----------------|
|          |                        |                |  | No.                    | Diameter. |                              |  |                |                |
|          | BALLAST PUMP           |                |  |                        |           |                              |  |                |                |
|          | MAIN BILGE LINE PUMPS  |                |  |                        |           |                              |  |                |                |
|          | GENERAL SERVICE PUMP   |                |  |                        |           |                              |  |                |                |
|          | EMERGENCY BILGE PUMP   |                |  |                        |           |                              |  |                |                |
|          | SANITARY PUMP          |                |  |                        |           |                              |  |                |                |
|          | SEA WATER PUMPS        |                |  |                        |           |                              |  |                |                |
|          | FRESH WATER PUMPS      | 1              | 6 1/2                                      | 7                      | 1/32      | 12                           | 15 NET                                       |                | LEAD COVERED   |
|          | AIR COMPRESSOR         |                |  |                        |           |                              |  |                |                |
|          | FRESH WATER PUMP       |                |  |                        |           |                              |  |                |                |
|          | ENGINE TURNING GEAR    |                |  |                        |           |                              |  |                |                |
|          | ENGINE REVERSING GEAR  |                |  |                        |           |                              |  |                |                |
|          | LUBRICATING OIL PUMPS  |                |  |                        |           |                              |  |                |                |
|          | OIL FUEL TRANSFER PUMP |                |  |                        |           |                              |  |                |                |
|          | WINDLASS               | 1              | 50 1/2                                     | 37                     | 131/100   | 150                          | 110 NET                                      |                | LEAD COVERED   |
|          | WINCHES, FORWARD       | 4              | 50 1/2                                     | 37                     | 131/100   | 150                          | 90 NET                                       |                | " "            |
|          | WINCHES, AFT           | 4              | 50 1/2                                     | 37                     | 131/100   | 150                          | 90 NET                                       |                | " "            |
|          | STEERING GEAR          |                |  |                        |           |                              |  |                |                |
|          | (a) MOTOR GENERATOR    |                |  |                        |           |                              |  |                |                |
|          | (b) MAIN MOTOR         |                |  |                        |           |                              |  |                |                |
|          | WORKSHOP MOTOR         | 1              | 6 1/2                                      | 7                      | 1/32      | 18                           | 15 NET                                       |                | LEAD COVERED   |
|          | VENTILATING FANS       | 12             | 1 1/2                                      | 7                      | 73/100    | 15                           |  |                | " "            |
|          | COAL WINCH             | 1              | 25 1/2                                     | 19                     | 13/65     | 75                           | 40 NET                                       |                | " "            |



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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.

*Barsukov*

Electrical Engineers.

Date *13/VIII-27*

COMPASSES.

Distance between electric generators or motors and standard compass *70'*  
 Distance between electric generators or motors and steering compass *84'*

The nearest cables to the compasses are as follows:—

A cable carrying 0.15 Amperes *28* feet from standard compass *42* feet from steering compass.  
 A cable carrying 0.17 Amperes *2'-4"* feet from standard compass *6'-4"* feet from steering compass.  
 A cable carrying 0.17 Amperes *2'-4"* feet from standard compass *6'-4"* 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 *-0.9* degrees on *240-6* course in the case of the standard compass, and *+1.5* degrees on *170* course in the case of the steering compass.



*A. Kortsehelletti*

Builder's Signature.

Date *30/VIII-27*

Is this installation a duplicate of a previous case *YES* If so, state name of vessel *"GREGORY ZINOVIEFF"*

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

*This installation has been fitted on board under special survey, the workmanship generally was found to be very good.  
 The 60 kw. Generators have not been adjusted under full power working condition on account of the engine governors not operating satisfactory. When the engine governors have been efficiently regulated the circuit breakers are to be adjusted in the presence of a Surveyor and a notice fixed to the Switch Board giving instructions for working the triple-switch when the machines are run in parallel. Meanwhile the Owners Representative has been informed that the machines are not to be run in parallel.*

Total Capacity of Generators *128* Kilowatts.

|                                |   |   |                   |
|--------------------------------|---|---|-------------------|
| The amount of Fee ... .. £     | : | : | When applied for, |
|                                |   |   | 19.....           |
| Travelling Expenses (if any) £ | : | : | When received,    |
|                                |   |   | 19.....           |

*H. M. Crisick*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Im. 1.28.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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