

REVISION OF OIL TRANSFORMERS

Revision of oil transformers is performed of the following technical operations:

1. Fault diagnosis of transformer involves control by visual inspection of all outer parts, that there is no mechanical damage to any part, an occurrence of corrosion or leakage of oil in any place. If there are damaged insulators, they are replaced with new ones. All detected irregularities or damage are entered in the defect sheet.
2. External washing of the transformer with hot water under pressure.
3. Emptying transformer oil.
4. Disassembly of the transformer or removal of the active part with the plate from the transformer vessel.
5. Check the condition of the windings, all compounds and connections, as well as the isolation parts.
6. Checking the tightening of the nuts on the transverse and longitudinal screws. If necessary, it is additionally tightened.
7. Removing the plate from the active part.
8. Washing the active part (magnetic wheel with windings) with a technical oil removal.
9. Checking the functionality of the voltage regulator. If you see anomalies, deformations, or damage to the contacts, a repair or a new regulator is made.
10. Opening and washing the interior of the conservator
11. Drying the active part in the oven at a temperature of 95 ° C until satisfactory value of insulation resistance is achieved
12. Assembly the plate to the active part.
13. Tighten the nuts on all bolts and joints.
14. Lowering the active part into the transformer vessel and completing the transformer.
15. Replace all gaskets (below the plate, on the insulators and the regulator)
16. Testing transformer oil and, if necessary, be filtered or replaced with new ones.
17. Filling the transformer with insulating oil.
18. Checking the correctness of the dehydrator and if necessary due to damage or moisture silica gel, it is replaced with new ones.
19. Checking the functionality of the buchholz relay.
20. Check the functionality and correctness of the contact thermometer.
21. Checking the correctness of the oil level indicators. The oil level must be at the level of 20°C.
22. Transformer testing in accordance with SRPS EN 60076-1, which includes the following tests:
 - Measuring the resistance of the coil isolation between each other and in relation to the grounded parts (with megometer).
 - Measurement of the transformation ratio in all positions of the voltage regulator (most often for $\pm 2 \times 2.5\%$).
 - Check the coil connection.
 - viewing an empty walk.
 - Viewing a short circuit.
 - Insulation test supplied with voltage of 50 Hz and 1 min. with 80% of the full value, for the appropriate degree of isolation.
 - Insulation-induced voltage test

- Test list with the results of all tests.

23. Final painting of the transformer.

24. Mounting the nameplate and marking the grounding screw with a standard mark.

25. Filling the oil drain tap (bottom of the vessel), oil pouring plug on the conservator and one clamping screw on the plate.

26. If necessary, mount the wheels.

At the end of all the above operations, the transformer is ready for shipping.

REMONTOIL TRANSFORMERS

Upon receipt of a transformer that came with some malfunction occurred, it is necessary to determine the location and character of the damage, ie. whether the damage is on the regulator, connections or on the windings itself. The operations to be done are:

1. Operations 1 to 9 listed for Transformation Revision.
2. A statement of the damage of electrical and mechanical nature on the high-voltage coils or voltage regulator, as well as the nature of the damage, whether due to the effect of overvoltage, short circuit or less than overheating. The damaged windings are replaced by new ones.
3. Disassembly of the high-voltage winding to determine the actual state of the low voltage winding. The damaged windings are replaced by new ones.
4. Production of new insulating and mechanical parts of the active part of the transformer (plates, moldings, cylinders), if damaged.
5. Installation of new low-voltage and high-voltage windings and linkage of all connections and connections.
6. Install a repaired or new voltage regulator.
7. Continue all operations from 10 to 25 listed in the Transformation Revision.