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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 14542-2017

Replacing GB/T 14542-2005

Guide for maintenance and supervision of transformer oil

变压器油维护管理导则

(English Translation)

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 14542-2005 "Guidelines for the maintenance of oil for the operation of transformer oil", compared with GB/T 14542-2005 the main technical changes are the following.

- Standard name changed to "Transformer oil maintenance management guidelines";
- modified the scope of application of the standard;
- modified the normative reference file;
- Added terms and definitions;
- simplifies the contents of the sampling section;
- modified after the new oil purification, hot oil after the oil inspection project and quality standards;
- modified the quality of the transformer oil in the operation and testing cycle, an increase of chroma, gas, electricity tendency, corrosive sulfur, stars Particle size, antioxidant additive content, furfural content, dibenzyl disulfide (DBDS) content and other projects;
- the interpretation of the test results is removed;
- modified the transformer oil over the limit causes and countermeasures, an increase of corrosive sulfur, particle pollution, furfural content, dibenzyl di (DBDS) content of the limit, the possible reasons and to take countermeasures;
- modified the oil compatibility (mixed oil) content;
- will be running oil anti-aging measures and oil treatment section of the contents of the merger modification, the title changed to "running in the maintenance of transformer oil";
- modified the oil storage and transportation and technical management chapter content;

- the deletion of the informative Appendix A;

--- modified the original standard information Appendix B content.

This standard uses the re-drafting method to refer to IEC 60422.:2013 "Guidelines for the regulation and maintenance of mineral insulating oils in electrical equipment" the degree of coherence of IEC 60422.:2013 is non-equivalent.

This standard is proposed by the China Electricity Council.

This standard is under the jurisdiction of the National Electrification Standardization Technical Committee (SAC/TC322).

The main drafting unit of this standard. Xi'an Thermal Engineering Research Institute Co., Ltd.

This standard participates in the drafting unit. State Grid Shaanxi Electric Power Company Electric Power Research Institute, East China Electric Power Test Research Institute Co., Ltd., North China Electric Power Research Institute limited liability company.

1 Scope

This standard specifies the principle of transformer oil maintenance management.

This standard applies to power transformers, reactors, transformers, oil-filled casing and other oil-filled electrical equipment used in mineral insulating oil.

This standard does not apply to various synthetic insulating liquids.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 261 Determination of flash point Binsky - Martin closed cup method Petroleum products - Determination of acid value GB/T 507 Insulation oil breakdown voltage method GB 2536 Unused mineral insulating oil for electrical fluid transformers and switches GB/T 5654 Measurement of relative permittivity, dielectric loss factor and DC resistivity of liquid insulating materials Petroleum products - Color determination method GB/T 6541 Determination of oil-to-water interface tension of petroleum products (ring method) GB/T 7595 Transformer oil quality during operation GB/T 7597 Sampling method for power oil (transformer oil, turbine oil) Determination of water - soluble acids in transformer oil in operation GB/T 7598 GB/T 7600 Determination of moisture content of transformer oil and turbine oil in operation (coulometric method) Determination of insoluble materials for lubricants in use GB/T 8926-2012 GB 50150 electrical installations installation engineering electrical equipment transfer test standards Insulation paper for insulating materials -

Insulated paper - Insulated Method for Detecting Charging Tendency of DL/T 385
Transformer Oil Glossary of Glossary of Electric Power Measurement of volume resistivity
of oil for power Method for determination of aging of power oil cups Determination of oil
sludge precipitation Method for measurement of particle contamination in power oil GB/T
Specification for preventive test of electrical equipment Determination of gas content in
insulating oil of DL/T 703 by gas chromatography Guide for analysis and judgment of
dissolved gases in transformer oil Gravity limit for DL/T 1096 transformer oil Determination
of furfural content in transformer oil of DL/T 1355 transformer liquid chromatography Guide
for Regeneration and Use of Transformer Oil Determination of the content of metal
deactivators in mineral insulating oils - High performance liquid chromatography (RP -
HPLC) Guide for Storage Management of Transformer Oil for DL/T 1552