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GB/T 7595-2017

Replacing GB/T 7595-2008

Quality of Transformer Oils in Service

运行中变压器油质量

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Standardization Administration of the People's Republic of China.

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 7595-2008, *Quality of Transformer Oils in Service*. Compared with GB/T 7595-2008, the major changes of this Standard are as follows:

-- the application scope of the standard is modified;

-- the normative references are modified;

-- the standard for the quality of mineral transformer oils in service is modified;

-- the standard for the quality of breaker oils in service is modified;

-- the inspection items, such as chromaticity, and relevant quality indexes and test methods are added;

-- part of test methods are modified;

-- the terms and definitions are deleted;

-- part of test items are deleted;

-- test cycles and test items are deleted;

-- informative Annex A “Maximum Viscosity of Transformer Oils at the Lowest Cold-start Energizing Temperature” is deleted;

-- informative Annex B “Effects of Different Electrode Shapes and Operating Methods on the Measured Values of Breakdown Voltage” is deleted;

-- informative Annex C “Anti-degradation Measures for Transformer Oils in Service” is deleted.

This Standard was proposed by China Electricity Council.

This Standard shall be under the jurisdiction of the National Standardization Technical Committee on Electrification (SAC/TC 322).

The major drafting organization of this Standard: Xi’an Thermal Power Research Institute Co., Ltd.

The contributory drafting organizations of this Standard: China Petroleum Karamay Lubricating Oil Research Institute, Jiangsu Electric Power Company Electric Power Research Institute, State Grid Tianjin Electric Power Research Institute, Guangdong Power Grid Co., Ltd. Electric Power Research Institute.

The main drafters of this Standard: Xiao Xiuyuan, Ma Shujie, Wang Juan, Meng

Quality of Transformer Oils in Service

1 Application Scope

This Standard specifies the quality standard for mineral transformer oils and beaker oils in service.

This Standard applies to the quality and supervision of mineral transformer oils and breaker oils in service, which are filled in electrical equipment.

This Standard does not apply to mineral insulating oils, which are used for cables or condensers as impregnating compounds.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition dated applies to this document. For undated references, the latest edition of the referenced documents (including all amendments) applies to This Standard.

GB/T 261, *Determination of Flash Point – Pensky-Martens Closed Cup Method*

GB/T 264, *Petroleum Products – Determination of Acid Number*

GB/T 507, *Insulating Liquids – Determination of the Breakdown Voltage at Power Frequency*

GB 2536*, Fluids for Electrotechnical Applications – Unused Mineral Insulating Oils for Transformers and Switchgear*

GB/T 5654, *Insulating Liquids – Measurement of Relative Permittivity, Dielectric Dissipation Factor and D.C. Resistivity*

GB/T 6540, *Petroleum Products – Determination of Colour*

GB/T 6541, *Petroleum Products – Mineral Oils – Determination of Interfacial Tension of Oil against Water – Ring Method*

GB/T 7598, *Determination of Water-soluble Acid in Transformer and Turbine Oils in Service by Colorimetric Method*

GB/T 7600, *Determination of Water Content in Transformer Oils in Service by Coulometric Method*

GB/T 7601, *Determination of Water Content for Transformer and Turbine Oils in Service by Gas Chromatographic Method*

GB/T 8926-2012, *Standard Test Method for Insolubles in Used Lubricating Oils*

GB/T 14542, *Guide for Maintenance and Supervision of Transformer Oil in Service*

GB/T 25961, *Standard Test Method for Corrosive Sulfur in Electrical Insulating Oils*

GB/T 28552, *Determination of Acid Number in Transformer Oils and Turbine Oils by BTB Method*

DL/T 285, *Test Method for Corrosive Sulphur in Mineral Insulating Oils – Copper Conductor Wrapped with Insulating Paper*

DL/T 385, *Determination of Electrostatic Charging Tendency of Transformer Oil*

DL/T 421, *Determination of Volume Resistivity of Power Oils*

DL/T 423, *Determination of Dissolved Gas Content in Insulating Oil – Method of Vacuum Pressure Difference*

DL/T 432, *Determination of Particulate Contamination in Oil*

DL/T 703, *Determination of Dissolved Gas Content in Insulating Oil by Gas Chromatography*

DL/T 929, *Determination of the Content in Insulating Oil and Lubricating Oil by Infrared Spectrum Method*

DL/T 1094, *Guide to the Choice of Power Transformer Oil*

DL/T 1095, *Guide to on-site Determination of Electrostatic Charging Tendency of Transformer Oil*

DL/T 1096, *Limited Value of Particular Pollutant of Transformer Oils*

DL/T 1354, *The Method of Flash Point of Power Oil by Microscale Continuously Closed Cup Tester*

DL/T 1355, *Method for Determination of Furfural Content in Transformer Oil by HPLC*

NB/SH/T 0810, *Gassing of Insulating Liquids under Electrical Stress and Ionization*

NB/SH/T 0812, *Mineral Insulating Oils – Method for the determination of 2-furfural and Related Compounds*

SH/T 0802, *Determination of 2,6-bi-tert-butyl-paracresol in Insulating Oils*

SH/T 0804, *Detection of Corrosive Sulfur of Insulating Oils – Silver Strip Test*

IEC 62697-1, *Test Methods for Quantitative Determination of Corrosive Sulfur*

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