

Subject 1562

May 4, 2018

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Transformers, Distribution, Dry-Type - Over 600 Volts, UL 1562, are being proposed:

1. Addition of Alternative Aging Requirements from UL 1446A

STP BALLOTS AND ALL COMMENTS DUE: June 4, 2018

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

1. Addition of Alternative Aging Requirements from UL 1446A

RATIONALE

Proposal submitted by: Lothar Stuber, Starkstrom-Geraetebau GMBH

This proposal is intended to add an alternative thermal aging procedure for the evaluation of insulation systems for use in medium and high voltage transformers. The proposed method is taken from UL 1446A, the Outline of Investigation for Dry Type Transformer Insulation Systems Rated Above 1 kV, which is very similar to the current method in the Test Procedure for Thermal Evaluation of Insulation Systems for Dry-Type Power and Distribution Transformers, Including Open-Wound, Solid-Cast, and Resin-Encapsulated Transformers, IEEE C57.12.60, with the main difference being the means of detecting the end of life of the test coils. Testing of HV transformer coils using both methods has been conducted and the UL 1446A method achieves end of life within one year rather than the IEEE method taking significantly longer. In addition, the UL 1446A method establishes a thermal rating that is more conservative than the IEEE method.

In addition, another paragraph 8.1.1 is being proposed to clarify the use of insulation systems tested to UL 1446 for low voltage applications in a HV/MV transformer where the winding is operating below 1kV.

Please see the supporting documentation in the CSDS work area to reference UL 1446A.

PROPOSAL

8 Insulation Systems

8.1 The insulation system used in the transformer that operates above 600V shall be ~~one that has been~~ evaluated in accordance with the thermal aging procedure described in either one of the following:

- a) ~~†~~ The IEEE Standard Test Procedure for Thermal Evaluation of Insulation Systems for Dry-Type Power and Distribution Transformers, Including Open Wound, Solid-Cast, and Resin-Encapsulated Transformers, ANSI/IEEE C57.12.60 and has been found to be acceptable for the temperatures and voltages involved. Transformers with solid cast or resin encapsulated

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insulation systems shall be evaluated in accordance with the IEEE Standard Test Procedure for Thermal Evaluation of Insulation Systems for Dry-Type Power and Distribution Transformers, Including Open-Wound, Solid-Cast, and Resin-Encapsulated Transformers, ANSI/IEEE C57.12.60, or

b) UL 1446A Outline of Investigation for Dry Type Transformer Insulation Systems Rated Above 1 kV.

8.1.1 The insulation system used in the secondary winding of the transformer that operates below 1kV shall be evaluated with the thermal aging procedures described in 8.1 or in accordance with the thermal aging procedure described in the Standard for Systems of Insulating Materials – General, UL 1446.

(UNCHANGED)

8.2 Material substitutions in the insulation system shall be in accordance with the requirements in the Standard for Systems of Insulating Materials – General, UL 1446.

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