P522

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Type of Project: Revision to IEEE Standard 522-2004
PAR Request Date: 30-Aug-2016
PAR Approval Date: 07-Dec-2016
PAR Expiration Date: 31-Dec-2020
Status: PAR for a Revision to an existing IEEE Standard
Root Project: 522-2004

1.1 Project Number: P522
1.2 Type of Document: Guide
1.3 Life Cycle: Full Use

2.1 Title: Guide for Testing Turn Insulation of Form-Wound Stator Coils for Alternating-Current Electric Machines

Changes in title: ~~IEEE~~ Guide for Testing Turn Insulation of Form-Wound Stator Coils for Alternating-Current Electric Machines

3.1 Working Group: Materials SC - Turn Insulation of Form-Wound Stator Coils (PE/EM/Matl - WG522)
Contact Information for Working Group Chair
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None

3.2 Sponsoring Society and Committee: IEEE Power and Energy Society/Electric Machinery (PE/EM)
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3.3 Joint Sponsor: IEEE Dielectrics and Electrical Insulation Society/Standards Committee (DEI/SC)
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 10/2018
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 08/2019

5.1 Approximate number of people expected to be actively involved in the development of this project: 50
5.2 Scope: The purpose of this guide is to make suggestions on testing the dielectric strength of the insulation separating the various turns from each other within multiturn form-wound coils to determine the acceptability of the coils. Typical ratings of machines employing such coils normally lie within the range of 200 kW to 100 MW. Test voltage levels described herein do not evaluate the ability of the turn insulation to withstand abnormal voltage surges, as contrasted to surges associated with normal operation. These suggestions apply to: (1) Individual stator coils after manufacture (2) Coils in completely wound stators of original manufacture (3) Coils and windings for rewinds of used machinery (4) Windings of machines in service to determine their suitability for further service (preventive-maintenance testing) The repetitive voltage surges (spikes) associated with Variable Frequency Drives (VFD's) are also not addressed here.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: The purpose of this publication is to: (1) Define surge / impulse testing as applied to the windings of an electric machine; (2) Review the service conditions which affect or change voltage levels in a coil; (3) Recommend devices suitable for measuring surges, with precautions to avoid erroneous results; (4) Describe various points at which surge testing should be performed; (5) Present suggested surge test levels for various types of electric machines.

5.5 Need for the Project: This guide was last reaffirmed in 2009 so a full revision is required by 2019 or it will become inactive. The guide is used extensively so it should not be allowed to become inactive.

5.6 Stakeholders for the Standard: Original equipment manufacturers, repair facilities, coil manufacturers, utilities, industrial users and other users of large motors and generators.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

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7.1 Are there other standards or projects with a similar scope?: Yes
If Yes please explain: The IEC has had an equivalent specification for surge testing for many years. Procedures are similar but the recommended voltages are different.

and answer the following
Sponsor Organization: IEC
Project/Standard Number: 60034-15
Project/Standard Date: 17-Mar-2009
Project/Standard Title: Rotating electrical machines - Part 15: Impulse voltage withstand levels of form-wound stator coils for rotating a.c. machines
7.2 Joint Development
Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes: The 10 year validity period will expire in 2019. This guide is used extensively and should not be withdrawn. Therefore, by the SA rules revision is required. Major changes are not anticipated.