

# PC57.154

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**Submitter Email:** [richard.p.marek@usa.dupont.com](mailto:richard.p.marek@usa.dupont.com)

**Type of Project:** Modify Existing Approved PAR

**PAR Request Date:** 16-Sep-2011

**PAR Approval Date:** 09-Nov-2011

**PAR Expiration Date:** 31-Dec-2013

**Status:** Modification to a Previously Approved PAR

**Root PAR:** PC57.154      **Approved on:**  
19-Mar-2009

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**1.1 Project Number:** PC57.154

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

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**2.1 Title:** Standard for the Design, Testing and Application of Liquid-Immersed Distribution, Power and Regulating Transformers Using High-Temperature Insulation Systems and Operating at Elevated Temperatures

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**3.1 Working Group:** Insulation Life - Standard for the design, testing and application of liquid-immersed distribution, power and regulating transformers using high-temperature insulation systems (PE/TR/InsLife-WGC57.154)

**Contact Information for Working Group Chair**

**Name:** Richard Marek

**Email Address:** [richard.p.marek@usa.dupont.com](mailto:richard.p.marek@usa.dupont.com)

**Phone:** 8043832376

**Contact Information for Working Group Vice-Chair**

None

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**3.2 Sponsoring Society and Committee:** IEEE Power and Energy Society/Transformers (PE/TR)

**Contact Information for Sponsor Chair**

**Name:** James Smith

**Email Address:** [edsmith@h-jenterprises.com](mailto:edsmith@h-jenterprises.com)

**Phone:** 636.677.3421

**Contact Information for Standards Representative**

**Name:** William Bartley

**Email Address:** [william\\_bartley@hsb.com](mailto:william_bartley@hsb.com)

**Phone:** 860 722 5483

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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:** 02/2012

**4.3 Projected Completion Date for Submittal to RevCom:** 05/2013

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**5.1 Approximate number of people expected to be actively involved in the development of this project:** 50

**5.2 Scope:** This standard applies to all liquid-immersed distribution, power and regulating transformers that are designed to operate at temperatures that exceed the normal thermal limits of C57.12.00, under continuous load, in the designed average ambient and at rated conditions.

**Changes in scope:** This standard applies to all liquid-immersed distribution, power and regulating transformers that are designed to operate at temperatures that exceed the normal thermal limits of C57.12.00, under continuous load, in the designed average ambient and at rated conditions. ~~More specifically, these thermal limits for the winding are defined as 65°C average temperature rise, 80°C hottest spot temperature rise or 110°C hottest spot absolute temperature. The thermal limits for the liquid are defined as 65°C top liquid temperature rise and 95°C absolute temperature.~~

**5.3 Is the completion of this standard dependent upon the completion of another standard:** No

**5.4 Purpose:** This standard provides specific requirements and guidance in the design, testing and application of the transformers covered within its scope. These transformers incorporate high-temperature insulation systems or systems that use a combination of high-temperature and conventional insulation.

**Changes in purpose:** This standard provides specific requirements and guidance in the design, testing and application of the transformers covered within its scope. These transformers incorporate high-temperature insulation systems or systems that use a combination of high-temperature and conventional insulation.

**5.5 Need for the Project:** High-temperature liquid-filled transformers have been a specialty product for many years and they are becoming more common. However, there is no IEEE standard to address this type of transformer. The Transformers Committee has determined that the time is now appropriate to develop a standard to cover these units, including the use of

alternate high-temperature liquids.

**5.6 Stakeholders for the Standard:** Manufacturers and users in the distribution and power transformer industry

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#### **Intellectual Property**

**6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:** Yes

**If yes please explain:** The WG is in contact with IEC concerning a reference document and will request formal approval for the use of portions as appropriately modified.

**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:** IEC has a similar document currently in revision, but due to the extensive references to other base IEC documents, it would not be possible to use this document.

#### **and answer the following**

**Sponsor Organization:** International Electrotechnical Commission (IEC)

**Project/Standard Number:** TS60076-14

**Project/Standard Date:** 01-May-2009

**Project/Standard Title:** Design and application of liquid-immersed power transformers using high-temperature insulation materials

#### **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 (Item Number and Explanation):** The scope was modified to delete the last two sentences, because the WG felt the additional verbage was not appropriate for a scope. The remaining wording best meets the intent of the document and the requirements for an IEEE standard scope.

5.2: IEEE Std C57.12.00 "Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers"