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23 August 2007

Bill Chiu  
Southern California Edison  
2224 Walnut Grove Avenue  
Rosemead, CA 91770 USA  
bill.chiu@ieee.org

Re: PC57.12.36 - Standard Requirements for Liquid-Immersed Distribution Substation Transformers

Dear Bill:

I am pleased to inform you that on 22 August 2007 the IEEE-SA Standards Board approved the above referenced project until 31 December 2008. A copy of the file can be found on our website at <http://standards.ieee.org/board/nes/projects/C57-12-36.pdf>.

Now that your project has been approved, please forward a roster of participants involved in the development of this project. This request is in accordance with the IEEE-SA Operations Manual, Clause 5.1.2i under Duties of the Sponsor which states:

"Submit annually to the IEEE Standards Department an electronic roster of individuals participating on standards projects"

For your convenience, an Excel spreadsheet for your use has been posted on our website at <http://standards.ieee.org/guides/par/roster.xls>. Please forward this list to me via e-mail at [s.hampton@ieee.org](mailto:s.hampton@ieee.org) no later than 20 November 2007.

Please visit our website, IEEE Standards Development Online (<http://standards.ieee.org/resources/development/index.html>), for tools, forms and training to assist you in the standards development process. Also, we strongly recommend that a copy of your draft be sent to this office for review prior to the final vote by the working group to allow for a quick review by editorial staff before sponsor balloting begins.

If you should have any further questions, please contact me at +1 732 562 6003 or by email at [s.hampton@ieee.org](mailto:s.hampton@ieee.org).

Sincerely,

Sherry Hampton  
Administrator, Governance  
Standards Activities  
Phone +1 732 562 6003  
FAX +1 732 875 0695  
Email: s.hampton@ieee.org

CC: donald.fallon@ieee.org, stds-pes-scc@ieee.org, jrossetti@mlgw.org BCC: s.hampton@ieee.org, t.t.lee@ieee.org

**PAR Request Date:** 10 May 2007**PAR Approval Date:** 22 August 2007**PAR Signature Page on File:** Yes**Type of PAR:** Modification to Approved PAR**Status:** Modification to a Previously Approved PAR PC57.12.36, 13 June 2002**Root Project:** New Project**1.1 Project No.:** **C57.12.36****1.2 Type of Document:** Standard**1.3 Life Cycle:** Full-Use**1.4 Is this document in ballot now?** Yes**2.1 Title**

Standard Requirements for Liquid-Immersed Distribution Substation Transformers

**3.1 Working Group Name** [Distribution - Dist. Sub. Xfrmers Working Group](#)**Working Group Chair**[Rossetti, John R](#)

Phone: 901-528-4743

Email: jrossetti@mlgw.org

**Working Group Vice Chair**[Aho, David A](#)

Phone: 262-524-4201

Email: daho@cooperpower.com

**3.2 Sponsor**[IEEE Power Engineering Society Transformers \(PE/TR\)](#)**Sponsor Chair**[Fallon, Don J](#)

Phone: 973-430-8191

Email: donald.fallon@ieee.org

**Name of Standards Liaison Representative (if applicable)**[Chiu, Bill](#)

Phone: 323-720-5275

Email: bill.chiu@ieee.org

**3.3 Joint Sponsor****4.1 Type of Ballot:** Individual**4.2 Expected Date of Submission for Initial Sponsor Ballot:** February 2007**4.3 Projected Completion Date for Submittal to RevCom:** October 2007**5.1 Approximate number of people expected to work on this project:** 25

**5.2 Scope:** This standard covers certain electrical, dimensional, and mechanical characteristics of 50 and 60 Hz, two winding, liquid immersed distribution substation transformers. Such transformers may be remotely or integrally associated with either primary and secondary switchgear or substations, or both, for step-down or step-up purposes rated as follows: (1) 112.5 through 10 000 kVA three-phase (2) 250 through 6667 kVA single-phase (3) high voltage 69 000 V and below, and a low voltage of 34 500 V and below It is not intended that this standard shall apply to dry-type, regulating, pad-mounted, secondary-network, furnace, rectifier, mobile, railway, or mine transformers.

**Old Scope:** This project is to develop a standard for 50 and 60 Hz liquid immersed distribution substation transformers with ratings of 10 000 kVA and below three phase, 6667 kVA and below single phase with a primary voltage 69 000 and below, and a secondary voltage of 34 500 and below. The standard will cover indoor/outdoor application, cover/wall terminations and switchgear coordination issues.

**5.3 Is the completion of this document contingent upon the completion of another document?** No

**5.4 Purpose:** This document sets forth the requirements for distribution substation transformers. Existing standards do not provide adequate requirements for distribution substation transformers.

**Old Purpose:** This document sets forth the requirements for distribution substation transformers. Existing standards do not provide adequate requirements for distribution substation transformers.

**5.5 Need for the Project:** This document clarifies specific requirements for a class of transformers that has traditionally been handled within the Power Transformer Standard C57.12.10. The power transformer requirements dominated the standard and these requirements were not necessarily what either the users or manufactures agreed to produce. The requirements defined in this new standard combine some of the distribution requirements from C57.12.34 and some of the product standards from C57.12.10 giving the users and manufactures a consolidated location for all requirements. Future updates will be easily managed due to the focus of the document.

**5.6 Stakeholders for the Standard:** Stakeholders include the following end users: Utilities, Industrial, and Institutional organizations. OEM manufactures are also stakeholders as this equipment is packaged with switchgear which is addressed in this standard.

**6.1.a. Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR prior to the PAR submittal to the IEEE-SA Standards Board?** Yes **Presented Date:** 2007-03-13

If no, please explain:

**6.1.b. Is the Sponsor aware of any copyright permissions needed for this project?** No

If yes, please explain:

**6.1.c. Is the Sponsor aware of possible registration activity related to this project?** No

If yes, please explain:

**7.1 Are there other standards or projects with a similar scope?** No

If yes, please explain:

**Sponsor Organization:**

**Project/Standard Number:**

**Project/Standard Date:** 0000-00-00

**Project/Standard Title:**

**7.2 Is there potential for this standard (in part or in whole) to be adopted by another national, regional, or international organization?** ? No

**Technical Committee Name and Number:**

**Contact person:**

**Contact person Phone Number:**

**Contact person Email Address:**

**7.3 Will this project result in any health, safety, security, or environmental guidance that affects or applies to human health or safety?** No

**7.4 Additional Explanatory Notes:**

The document actually went to balloting in February 2006 (the system would not allow me to enter this date in Item 4.2). The only change being made to the PAR is the change in scope.

**8.1 Sponsor Information:**

Is the Scope of this project within the approved scope/definition of the Sponsor's Charter? Yes

If no, please explain:

[Email This Letter](#)

06 December 2006

Bill Chiu  
Southern California Edison  
501 South Marengo Avenue  
Alhambra, CA 91802  
bill.chiu@sce.com

Re: PC57.12.36 - Standard Requirements for Liquid-Immersed Distribution Substation Transformers

Dear Bill:

I am pleased to report that on 06 December 2006 the IEEE-SA Standards Board approved the extension request of the above-referenced project until 31 December 2008.

If you should have any further questions, please contact me at +1 732 562 6003 or by email at [s.hampton@ieee.org](mailto:s.hampton@ieee.org).

Sincerely,

Sherry Hampton  
Administrator, Governance  
Standards Activities  
Phone +1 732 562 6003  
FAX +1 732 875 0695  
Email: [s.hampton@ieee.org](mailto:s.hampton@ieee.org)

CC: [donald.fallon@ieee.org](mailto:donald.fallon@ieee.org), [stds-pes-scc@ieee.org](mailto:stds-pes-scc@ieee.org), [jrossetti@mlgw.org](mailto:jrossetti@mlgw.org)

# IEEE-SA Standards Board Extension Request

## Revised 14 September 2006

1. Date of Request: 2006-10-17
2. Assigned Project Number: PC57.12.36
3. Project Title: Standard Requirements for Liquid-Immersed Distribution Substation Transformers
  - a. Name of Working Group (WG): Distribution Substation Transformers
  - b. Name of Working Group Chair: David Aho / John Rossetti
  - c. Name of Sponsoring Society and Committee: Power Engineering Society /Transformers - Distribution Subcommittee
  - d. Name of Sponsoring Committee Chair: Ken Hanus
4. Contact Information (Contact should be the person who will answer any questions concerning this extension request):
  - a. Name: David Aho
  - b. Telephone: 262-524-4201
  - c. FAX: 262-524-4513
  - d. EMAIL: daho@cooperpower.com
5. The current PAR is valid through 2006-12-01 (enter the expiration date of the PAR). This PAR Extension is being requested for: One Year

**NOTE: The average extension request is for one or two years. NesCom will consider requests for extensions of three or four years on an exceptional basis. Such requests must be supported with sufficient detail on planned actions and activity dates to provide reasonable confidence that the project can be completed within the extended time.**

6. Statement of why an extension is required. This should include a description of what the working group has accomplished and what remains to be accomplished, along with the reasons why the work was unable to be completed in the allotted time frame. Balloting was completed in early 2006 and was successful (86% affirmative). At this time all the comments are being resolved and a request to change the Scope has been submitted due to a number of comments received during the balloting process. The majority of the comments have been addressed and the corresponding changes are now incorporated into the draft document. Specifically the person that submitted a large portion of the comments has been contacted and the issues resolved to his satisfaction. A recirculation ballot will be issued in the near future.

7. History
  - a. What date was the PAR first approved? 2002-06-01
  - b. What date did you begin writing the first draft? 2002-04-01
  - c. How many people are actively working on the project? 40
  - d. How many times a year does the working group meet:
    1. In person? 2

2. Via teleconference? 1  
e. How many times a year is a draft circulated to the working group via electronic means? 2

8. Document Progress

- a. What percentage of the Draft is stable? 98%  
b. How many significant work revisions has the Draft been through? 5

9. Project Plan

**(Item #9a is only for projects that have been balloted. If your draft has not yet gone to ballot, please go to Item #9b)**

a. Balloting History - Provide history of all IEEE Sponsor ballots under this project::

- 1<sup>st</sup> Ballot Close date (or scheduled close): 2006-03-17  
1<sup>st</sup> Ballot Draft Number: 10  
1<sup>st</sup> Ballot results (% affirmative, %negative, %abstain): 86, 14, 2

- 2<sup>nd</sup> Ballot Close date (or scheduled close):  
2<sup>nd</sup> Ballot Draft Number:  
2<sup>nd</sup> Ballot results (% affirmative, %negative, %abstain):

(Add additional entries for ballots as needed):

When do you estimate that the final IEEE Sponsor ballot will be completed? 2007-03-01  
When do you expect to submit the proposed standard to RevCom? 2007-05-01

**b. For projects that have not yet begun Sponsor ballot, please answer the following:**

- When will IEEE sponsor balloting begin?  
When do you estimate that the final IEEE Sponsor ballot will be completed?  
When do you expect to submit the proposed standard to RevCom?

10. Future Adoptions

- If this is a new document, will it be adopted (in part or in whole) by another national, regional or international organization? No If yes, which organization?
- If this is a revision of an existing document, has this document been adopted by the IEC, ISO, ETSI, SCC, etc? Choose One If yes, which organization?

11. Additional Extensions

- a. Is this the first request for an extension? Yes (If yes, please do not go any further. You have completed the form.)  
b. If not, when was the previous extension approved?

After completion of this form, please e-mail this to the NesCom Administrator at nescom-admin@ieee.org. Confirmation of submittal will be sent on receipt of this request.



Jodi Haasz

06/14/2002 10:20 AM

To: tprevost@ehv-weidmann.com  
cc: bkpatel@southernco.com, subhash.tuli@waukeshaelectric.spx.com,  
dgohil@poweraisle.com, barry.beaster@us.abb.com, stds-pes-scc@ieee.org  
Subject: Approved PARs

14 June 2002

Mr. Thomas Prevost  
EHV Weidmann  
One Gordon Mills Way  
St. Johnsbury, VT 05819

Re: PC57.12.10 Standard Requirements for Liquid-Immersed Power Transformers  
PC57.12.36 Standard Requirements for Liquid-Immersed Distribution Substation Transformers  
PC57.93 Guide for Installation of Liquid-Immersed Power Transformers  
PC57.145 Guide for the Definition of Thermal Duplicate Liquid-Immersed Distribution, Power, and Regulating Transformers

Dear Tom:

I am pleased to inform you that on 13 June 2002 the IEEE-SA Standards Board approved PC57.145 until December 2004 and the rest of the above referenced projects until December 2006 with the following changes:

PC57.12.10 - Change the purpose to read as follows:

"The purpose of this project is to update C57.12.10 and to remove any reference to distribution transformers which will be covered in a new stand alone standard, C57.12.36."

Copies of the approved PARs are attached in .pdf format.

**Now that your projects have been approved, please forward a roster of participants involved in the development of these projects. This request is in accordance with the IEEE-SA Operations Manual, Clause 5.1.2f under *Duties of the Sponsor* which states:**

**"Submit annually to the IEEE Standards Department an electronic roster of individuals participating on standards projects"**

**Attached is an Excel spreadsheet for your convenience. Please forward these lists to me via e-mail at [j.haasz@ieee.org](mailto:j.haasz@ieee.org) no later than 1 September 2002.**

At the bottom of this e-mail, please find URLs which you may find useful in the development of your proposed standard and in submitting your final draft for approval. We strongly recommend that a copy of your draft be sent to this office for review prior to the final voting by the working group to allow for a quick review by the editorial staff before sponsor balloting.

If you should have any further questions or would like to receive this information in paper, please contact me at 732-562-6367 or by email at [j.haasz@ieee.org](mailto:j.haasz@ieee.org).

Sincerely,

Jodi Haasz  
Senior Administrator  
IEEE-SA Governance and Electronic Processes

PS - The information in the .pdf file is viewable in Adobe Reader, version 3.0 or higher. If you do not have this software, please go to <http://www.adobe.com/prodindex/acrobat/readstep.html#reader> to download the free version.

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Standards Process-at-a-Glance  
<http://standards.ieee.org/resources/glance.html> - A quick-reference site useful to any standards developer.

IEEE Standards Style Manual  
<http://standards.ieee.org/guides/style/index.html> - Guidelines that establish style and format requirements for the preparation of proposed IEEE standards.

IEEE Standards Companion  
<http://standards.ieee.org/guides/companion/index.html> - An overall view of the standards process; what to do, what to avoid, lessons learned, and sample forms.

Implement Plan for Metric Policy 9.20  
<http://standards.ieee.org/announcements/metric.html> - Information on when, why and how the plan will be implemented and what exceptions exist.

Leading a Standards Development Group  
<http://standards.ieee.org/faqs/ltpres.html#q1> - A free training session offered by staff to make the most of the standards process. After attending, you will have a great understanding of

- the need for due process and consensus
- how to submit PARs and Drafts
- the "legal" aspects (copyrights, trademarks, patents)
- how staff can help you

Standards Coordinating Committee 10  
<http://standards.ieee.org/faqs/SCC10.html> - An explanation of the importance of coordinating with the IEEE Dictionary (SCC10) as is mandated on the PAR form.

Balloting Information  
[http://standards.ieee.org/resources/glance\\_at\\_balloting.html](http://standards.ieee.org/resources/glance_at_balloting.html)

Standards Development Solutions  
<http://standards.ieee.org/sds/index.html>



Sample Roster.xls



C57-12-10.pdf



C57-12-36.pdf



C57-93.pdf



C57-145.pdf

# PAR FORM

06/10/02

**PAR Status:** New PAR

**PAR Approval Date:** 06/13/2002

**PAR Signature Page on File:** Yes

**Review of Standards Development Process:** No

**1. Assigned Project Number:** C57.12.36

**2. Sponsor Date of Request:** 10/16/2001

**3. Type of Document:** Standard for

**4. Title of Document:**

**Draft:** Standard Requirements for Liquid-Immersed Distribution Substation Transformers

**5. Life Cycle:** Full Use

**6. Type of Project:**

**6a. Is this an update to an existing PAR?** No

**6b. The project is a:** The project is a new standard

**7. Contact Information of Working Group:**

**Name of Working Group (WG):** Distribution Substation Transformers

**Name of Working Group Chair:** John R Rossetti

**Telephone:** 901-528-4743

**FAX:** 901-528-4087

**Email:** jrossetti@mlgw.org

**8. Contact Information of Official Reporter (If different than Working Group Chair )**

**Name of Official Reporter:** (if different than WG Contact)

**Telephone:**

**FAX:**

**Email:**

**9. Contact Information of Sponsoring Society or Standards Coordinating Committee**

**Name of Sponsoring Society and Committee:** Power Engineering Society/Transformers

**Name of Sponsoring Committee Chair:** Bipin K Patel

**Telephone:** (205) 992-7740

**FAX:** (205) 992-5103

**Email:** bkpatel@southernco.com

**Name of Liaison Rep.(If different than Sponsor Chair):** Tom A Prevost

**Telephone:** 802-751-3458

**FAX:** 802-748-8029

**Email:** tprevost@ehv-weidmann.com

**10. The type of ballot is:** Individual Sponsor Ballot

**Expected Date of Submission for Initial Sponsor Ballot:** 10/31/2005

**11. Fill in Projected Completion Date for Submittal to RevCom:** 10/31/2006

**Explanation for Revised PAR that completion date is being extended past the original four-year life of the PAR:**

**12. Scope of Proposed Project:**

This project is to develop a standard for 50 and 60 Hz liquid immersed distribution substation transformers with ratings of 10 000 kVA and below three phase, 6667 kVA and below single phase with a primary voltage 69 000 and below, and a secondary voltage of 34 500 and below. The standard will cover indoor/outdoor application, cover/wall terminations and switchgear coordination issues.

**13. Purpose of Proposed Project:**

This document sets forth the requirements for distribution substation transformers. Existing standards do not provide adequate requirements for distribution substation transformers.

**14. Intellectual Property**

Sponsor has reviewed the IEEE patent policy with the working group? Yes

Sponsor is aware of copyrights relevant to this project? No

Sponsor is aware of trademarks relevant to this project? No

Sponsor is aware of possible registration of objects or numbers due to this project? No

15. Are you aware of other standards or projects with a similar scope? No

**Similar Scope Project Information:**

False

16. Is there potential for this standard (in part or in whole) to be submitted to an international organization for review/ adoption?

No

If yes, please answer the following question:

Which International Organization/Committee?

International Contact Information:

17. Will this project focus on Health, Safety or Environmental Issues? No

**18. Additional Explanatory Notes:(Item Number and Explanation)**