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To mwactor@powl.com

cc tburse@powl.com, stds-pes-scc@ieee.org,  
fortin.marcel@ieee.org, matthew ceglia,

bcc

Subject Approval of Project - PC37.301

01 October 2007

Michael Wactor  
Powell Electrical Systems, Inc.  
8550 Mosley Drive  
Houston, TX 77075  
mwactor@powl.com

Re: PC37.301 - Standard for High-Voltage (Above 1000 V) Test Techniques - Partial Discharge Measurements

Dear Michael:

I am pleased to inform you that on 27 September 2007 the IEEE-SA Standards Board approved the above referenced project until 31 December 2011. A copy of the file can be found on our website at <http://standards.ieee.org/board/nes/projects/C37-301.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"

Rosters can be submitted in any format to the NesCom Administrator ([nescom-admin@ieee.org](mailto:nescom-admin@ieee.org)). Please forward this list to the NesCom Administrator via e-mail at [nescom-admin@ieee.org](mailto:nescom-admin@ieee.org) no later than 26 December 2007.

Or, for your convenience, you can manage your standards development roster in myProject. Instructions are as follows:

- Go to myProject - <https://development.standards.ieee.org/my-site>
- Login using your IEEE Web Account username and password.
- Once logged into myProject, go to "Manage Committees"
- Drill down to the project by clicking the (+) on the left to expand each level. The actual project will be highlighted in yellow
- Click "Manage Committees" for that project. A list of individuals enrolled in the Committee/Project will appear. On this screen you can assign whether a person is a Participant, a Non-Voting Member or a Voting Member of the project group. You may also view contact

information for that individual.

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 questions, please contact the NesCom Administrator via e-mail at [nescom-admin@ieee.org](mailto:nescom-admin@ieee.org) or via telephone at +1 732 562 3806.

Sincerely,

NesCom Admin  
Standards Activities  
Email: [nescom-admin@ieee.org](mailto:nescom-admin@ieee.org)

**PAR Request Date:** 31 July 2007**PAR Approval Date:** 27 September 2007**PAR Signature Page on File:** Yes**Type of PAR:** PAR for the Adoption of a Non-IEEE Standard**Status:** PAR for the Adoption of a Non-IEEE Standard**Root Project:****1.1 Project No.:** **C37.301****1.2 Type of Document:** Standard**1.3 Life Cycle:** Full-Use**1.4 Is this document in ballot now?** No**2.1 Title**

Standard for High-Voltage (Above 1000 V) Test Techniques - Partial Discharge Measurements

**3.1 Working Group Name** [Administrative Subcommittee Working Group - C37.301](#)**Working Group Chair**[Fortin, Marcel](#)

Phone: 450-922-0925

Email: fortin.marcel@ieee.org

**Working Group Vice Chair****3.2 Sponsor**[IEEE Power Engineering Society Switchgear \(PE/SWG\)](#)**Sponsor Chair**[Burse, Ted](#)

Phone: 713-948-4599

Email: tburse@powl.com

**Name of Standards Liaison Representative (if applicable)**[Wactor, Michael](#)

Phone: 713-948-4918

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**3.3 Joint Sponsor****4.1 Type of Ballot:** Individual**4.2 Expected Date of Submission for Initial Sponsor Ballot:** December 2009**4.3 Projected Completion Date for Submittal to RevCom:** December 2011**5.1 Approximate number of people expected to work on this project:** 10

**5.2 Scope:** This International Standard is applicable to the measurement of partial discharges which occur in electrical apparatus, components or systems when tested with alternating voltages up to 400 Hz or with direct voltage. This standard – defines the terms used; – defines the quantities to be measured; – describes test and measuring circuits which may be used; – defines analogue and digital measuring methods required for common applications; – specifies methods for calibration and requirements of instruments used for calibration; – gives guidance on test procedures; – gives some assistance concerning the discrimination of partial discharges from external interference. The provisions of this standard should be used in the drafting of specifications relating to partial discharge measurements for specific power apparatus. It deals with electrical measurements of impulsive (short-duration) partial discharges, but reference is also made to non-electrical methods primarily used for partial discharge location (see annex F). Diagnosis of the behaviour of specific power apparatus can be aided by digital processing of partial discharge data (see annex E) and also by non-electrical methods that are primarily used for partial discharge location (see annex F). This standard is primarily concerned with electrical measurements of partial discharges made during tests with alternating voltage, but specific problems which arise when tests are made with direct voltage are considered in clause 11. The terminology, definitions, basic test circuits and procedures often also apply to tests with other frequencies, but special test procedures and measuring system characteristics, which are not considered in this standard, may be required. Annex A provides normative requirements for performance tests on calibrators.

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

**5.4 Purpose:** The electrical Partial Discharge (PD) measurement has been proven for many years as a valuable tool for assessment of the insulation condition of HV equipment. The procedure is preferably performed on the basis of the PD quantity apparent charge using either the wide-band or a narrow-band measuring method. This Recommended Practice recommends using the wide-band method that allows partial discharge pattern recognition. This recommended practice adopt the IEC 60270 2000-12 for the following main items: definition of the terms used; the quantities to be measured; test and measuring circuits which may be used; analogue and digital measuring methods required for common applications; methods for calibration and requirements of instruments used for calibration and on their maintenance. The IEEE Switchgear Committee specific requirements regarding guidance on test procedures and test set-up; discrimination of partial discharges from external Interference and partial discharge pattern recognition are part of normative and informative annexes that complement the IEC base document (IEC 60270-200-12). Partial discharge limits, pre-stressing voltages, measuring voltage and specific test procedures are not part of this recommended practice and shall be defined in particular product standards.

**5.5 Need for the Project:** The IEC 60270 2000-12 contains all the appropriate material regarding definitions, measuring systems, instrumentation, calibration, maintenance of calibrators and measuring systems. The test procedure and the pattern recognition material need to be upgrade for switchgear partial discharge measurements. The IEC 60270 document is adopted as the basic material. References to specific IEEE standards are added, the test procedure (clause 8 of IEC 60270) is completely revised for specific application to switchgears, and an informative annex is added giving guidance on pattern recognition of partial discharges in switchgears.

**5.6 Stakeholders for the Standard:** Users and manufacturers of switchgears rated above 1000 V

**6.1.a. Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitted this PAR prior to the PAR submittal to the IEEE-SA Standards Board?** Yes **Presented Date:** 2007-05-07

If no, please explain:

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

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?** ? Yes

**Technical Committee Name and Number:** IEC

**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:**

5.5 Purpose - There is no Purpose Clause in the IEC document.

**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: