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12 December 2005

James E Thomas  
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Re: P650 - Standard for Qualification of Class 1E Static Battery Chargers and Inverters for Nuclear Power Generating Stations

Dear James:

I am pleased to inform you that on 07 December 2005 the IEEE-SA Standards Board approved the above referenced project until 31 December 2006. A copy of the file can be found on our website at <http://standards.ieee.org/board/nes/projects/650.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 [j.haasz@ieee.org](mailto:j.haasz@ieee.org) no later than 07 March 2006.

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 732-562-6367 or by email at [j.haasz@ieee.org](mailto:j.haasz@ieee.org).

Sincerely,

Jodi Haasz  
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# PAR FORM

**PAR Status:** Modified Revision PAR

**PAR Approval Date:** 07 December 2005

**PAR Signature Page on File:** Yes

**1. Assigned Project Number:** P650

**2. Sponsor Date of Request:** 2005-10-12

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

**4. Title of Document:**

**Draft:** Standard for Qualification of Class 1E Static Battery Chargers and Inverters for Nuclear Power Generating Stations

**5. Life Cycle:** Full-Use

**6. Type of Project:**

**6a. Is this an update to an existing PAR?** Yes

**If Yes: Indicated PAR number/approval date:** 650 - 2001-03-17

**If Yes: Is this Project in Ballot now?** No

**6b. The Project is a:** Revision of Std 650-1990

**7. Working Group Information:**

**Name of Working Group:** Battery Chargers and Inverters Working Group

**Approximate Number of Expected Working Group Members:**5

**8. Contact information for Working Group Chair:**

**Name of Working Group Chair:** Dennis E Dellinger

**Telephone:** 614-846-7500 **FAX:** 614-885-3990

**Email:** dennis.dellinger@ameteksci.com

**9. Contact information for Co-Chair/Official Reporter, Project Editor or Document Custodian if different from the Working Group Chair:**

**Name of Co-Chair/Official Reporter, Project Editor or Document Custodian:**

**Telephone: FAX:**

**Email:**

**10. Contact information for Sponsoring Society or Standards Coordinating Committee:**

**Name of Sponsoring Society and Committee:** IEEE Power Engineering Society Nuclear Power Engineering

**Name of Sponsoring Committee Chair:** John J Disosway

**Telephone:** 540-894-2589 **FAX:** 540-894-2131

**Email:** john\_disosway@dom.com

**Name of Liaison Rep. (if different from the Sponsor Chair):** James E Thomas

**Telephone:** 864-962-0128 **FAX:** 864-962-0638

**Email:** jthomas@mpra.com

**Name of Co-Sponsoring Society and Committee:**

**Name of Co-Sponsoring Committee Chair:**

**Telephone: FAX:**

**Email:**

**Name of Liaison Rep. (if different from the Sponsor Chair):**

**Telephone: FAX:**

**Email:**

**11. The Type of ballot is:** Individual Sponsor Ballot

**Expected Date of Submission for Initial Sponsor Ballot:** November 2005

**12. Projected Completion Date for Submittal to RevCom:** October 2006

**Target Extension Request Information for a Modified PAR whose completion date is being extended past the original four-year life of the PAR:**

Statement of Why Extension Required: During the preview for ballot from NPEC, the committee requested a revised par request to be submitted to the Standard Association. The request is to recommend the removal of "in a mild environment" from the Scope. Time to submit the revised PAR and approval is required prior to balloting of P650 extends beyond original par expiration date.

# of Working Group Members: 3

How many times per year the Working Group Meets:

InPerson: 1

Via teleconference: 4

Times per year a draft is circulated via electronic means: 3

% Draft Stable: 95

Significant number of working revisions of the Draft: 7

Balloting History:

First extension request: Yes :

**13. Scope of Proposed Project:**

This standard describes methods for qualifying static battery chargers and inverters for Class 1E installations outside containment in nuclear generating stations. The application of the equipment in the plant's electrical system is not within the scope of this standard as other industry standards, such as IEEE Std. 308-1980, IEEE std. 603-1980, and IEEE Std 946-1985, exist for this purpose. In addition, industry standards exist for equipment performance, such as ANSI/NEMA PE 5-1985. Performance requirements are not specified in this standard.

**Is the completion of this document contingent upon the completion of another document?**

No

**14. Purpose of Proposed Project:**

The purpose of this standard is to provide specific procedures to meet the requirements of IEEE 323-2003. For the purpose of this standard, battery chargers and inverters must perform their safety function under specified service conditions. The demonstration that an installed battery charger or inverter will meet its design specification requires many steps in a program of design,

fabrication, quality assurance, qualification, transportation, storage, installation, maintenance, periodic testing, and surveillance. This standard only treats the qualification area of this program. The result of the qualification program may provide a basis for determination of long-term maintenance requirements. Qualification may be accomplished in several ways: type testing, operating experience, or analysis. These methods may be used individually or in combination. The qualification methods in this standard employ a combination of type testing and analysis. Operating experience is of limited use as a sole means of qualification. Operating experience is, however, of great use as a supplement to testing, as the experience may provide an insight into the change in behavior of materials and components through time under actual service and maintenance conditions. Qualification by analysis shall include a justification of the methods, theories, and assumptions used. In general, battery chargers and inverters are too complex to be qualified by analysis alone, although analysis is effective in the extrapolation of test data and the determination of the effects of minor design changes to equipment previously tested.

**15. Reason for the Proposed Project:**

The reason for the project is to provide current and updated information on the process of qualification of inverters and battery chargers. The stakeholders are the nuclear power industry. "Additional statements may be added to cover the explanations of modernizing the standard to incorporate currently available equipment designs and procedures."

**16. Intellectual Property:**

- a. Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR? Yes 2005-10-10
- b. Is the sponsor aware of copyright permissions needed for this project? No
- c. Is the sponsor aware of trademarks that apply to this project? No
- d. Is the sponsor aware of possible registration activity related to this project? No

**17. Are there other documents or projects with a similar scope? No**

**Similar Scope Project Information:**

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

If yes, the following questions must be answered:

**Organization Name?**

**Technical**

**Committee**

**International**

**Contact**

**Information?**

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

If yes, please explain:

**20. Sponsor Information**

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

**If no, please explain:**

**b. The Sponsor's procedures have been accepted by the IEEE-SA Standards Board Audit Committee? Yes**

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

During the preview for ballot from NPEC, the committee requested a revised par request to be submitted to the Standard Association. The request is to recommend the removal of "in a mild environment" from the Scope.