

P450

Submitter Email: clarkcentral@att.net

Type of Project: Modify Existing Approved PAR

PAR Request Date: 28-Nov-2009

PAR Approval Date: 23-Jan-2010

PAR Expiration Date: 31-Dec-2010

Status: Modification to a Previously Approved PAR for the Revision of a Standard 450-2002

Root PAR: P450 **Approved on:** 22-Sep-2005

Project Record: 450

1.1 Project Number: P450

1.2 Type of Document: Recommended Practice

1.3 Life Cycle: Full Use

2.1 Title: Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications

3.1 Working Group: Working Group for Vented Lead Acid Maint and Testing (PE/SB/WG_450)

Contact Information for Working Group Chair

Name: Mark Clark

Email Address: clarkcentral@att.net

Phone: 865.769.3717

Contact Information for Working Group Vice-Chair

Name: Jose Marrero

Email Address: jamarrer@southernco.com

Phone: 205.992.5527

3.2 Sponsoring Society and Committee: IEEE Power & Energy Society/Stationary Batteries Committee (PE/SB)

Contact Information for Sponsor Chair

Name: Jeffrey LaMarca

Email Address: jeffrey.lamarca@luminant.com

Phone: 254-897-6688

Contact Information for Standards Representative

Name: James Mcdowall

Email Address: jim.mcdowall@saftbatteries.com

Phone: 203-985-2712

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2009

4.3 Projected Completion Date for Submittal to RevCom: 07/2010

5.1 Approximate number of people expected to be actively involved in the development of this project: 30

5.2 Scope: This document provides recommended maintenance, test schedules, and testing procedures that can be used to optimize the life and performance of permanently-installed, vented lead-acid storage batteries used in standby service. It also provides guidance to determine when batteries should be replaced. This recommended practice is applicable to standby service stationary applications where a battery charger normally maintains the battery fully charged and provides the dc loads.

The maintenance and testing programs described in this recommended practice represent the best program based on the information available at the time this document was developed. The user should evaluate these practices against their operating experience, operating conditions, manufacturer's recommendations, resources, and needs in developing a maintenance program for a given application. These maintenance

Old Scope: This document provides recommended maintenance, test schedules, and testing procedures that can be used to optimize the life and performance of permanently-installed, vented lead-acid storage batteries used for standby power applications. It also provides guidance to determine when batteries should be replaced. This recommended practice is applicable to full-float stationary applications where a battery charger normally maintains the battery fully charged and provides the dc loads. However, specific applications, such as emergency lighting units and semi-portable equipment, may have other appropriate practices that are beyond the scope of this recommended practice. Sizing, installation, qualification, other battery types, and application are also beyond the scope of this recommended practice. The maintenance and testing programs described in this recommended practice represent the best program based on the information

and testing recommendations were developed without consideration of economics, availability of testing equipment and personnel, or relative importance of the application. Development of a maintenance and testing program for a specific application requires consideration of all issues, not just the technical issues considered in this document.

available at the time this document was developed. The user should evaluate these practices against their operating experience, operating conditions, manufacturers recommendations, resources, and needs in developing a maintenance program for a given application. These maintenance and testing recommendations were developed without consideration of economics, availability of testing equipment and personnel, or relative importance of the application. Development of a maintenance and testing program for a specific application requires consideration of all issues, not just the technical issues considered in this document. This recommended practice does not include any other component of the dc system, or inspection and testing of the dc system, even though the battery is part of that system. Pre-operational and periodic dc system tests of chargers and other dc components may require that the battery be connected to the system. Details for these tests depend on the requirements of the dc system and are beyond the scope of this recommended practice.

5.3 Is the completion of this standard dependent upon the completion of another standard: Yes

If yes please explain: P1188 to bring the sections on rate adjusted testing into agreement between the documents. P1578 to include references to spill identification and cleanup.

5.4 Purpose: The purpose of this recommended practice is to provide the user with information and recommendations concerning the maintenance, testing, and replacement of vented lead-acid batteries used in stationary applications.

Old Purpose: The purpose of this recommended practice is to provide the user with information and recommendations concerning the maintenance, testing, and replacement of vented lead-acid batteries used in stationary applications. Incorporate errata sheet.

5.5 Need for the Project: Incorporate revisions to existing information based on operating experience and changes in technology as well as additional information to better support document users including: additional information on post seal maintenance, record keeping and data analysis, single cell preparation, testing, equalizing and impact on capacity test, ohmic measurements, specific gravity testing and adjustments, plate polarization, half cell readings, tafel curves, remote monitoring, spill identification and response, inspection checklist, spare cell maintenance, replacement cell preparation, testing, installation, and impact on capacity testing, impact of depolarizing agents on replacement cells, use of thermography during capacity testing, end of life for high rate applications, float current measurement and trending, individual cell charging and high rate equalization, adjusting maintenance requirements based differences in flooded battery technologies, and service life verses design life verses warranty life and the parameters that impact service life. The stakeholders for the project are the telecom industry, data centers, and the electric power industry and the battery service industry.

5.6 Stakeholders for the Standard: Nuclear

Telecom
Power Generation
UPS

Intellectual Property

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

If yes please explain: A table from a Battcon paper presented in 2002 was used to develop a portion of an IEEE 450. We have a copyright release from Battcon to use the table.

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

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

7.2 International Activities

a. Adoption

Is there potential for this standard (in part or in whole) to be adopted by another national, regional or international organization?: Do Not Know

Organization:

Technical Committee Name:

Technical Committee Number:

Contact Name:

Phone:

Email:

b. Joint Development

Is it the intent to develop this document jointly with another organization?: No

c. Harmonization

Are you aware of another organization that may be interested in portions of this document in their standardization development efforts?: No

8.1 Additional Explanatory Notes (Item Number and Explanation): Scope and purpose have been revised based on mandatory editorial coordination comments from Don Messina.

P1578: Recommended Practice for Stationary Battery Electrolyte Spill Containment and Management

P1188: Recommended Practice for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications