

P1679.1

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Type of Project: Modify Existing Approved PAR

PAR Request Date: 15-Aug-2017

PAR Approval Date: 06-Dec-2017

PAR Expiration Date: 31-Dec-2017

Status: Modification to a Previously Approved PAR

Root PAR: P1679.1 **Approved on:** 02-Feb-2011

1.1 Project Number: P1679.1

1.2 Type of Document: Guide

1.3 Life Cycle: Full Use

2.1 Title: Guide for the Characterization and Evaluation of Lithium-Based Batteries in Stationary Applications

3.1 Working Group: Lithium battery WG (PE/ESSB/WG_1679.1)

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3.2 Sponsoring Society and Committee: IEEE Power and Energy Society/Energy Storage & Stationary Battery Committee (PE/ESSB)

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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: 07/2012

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2017

5.1 Approximate number of people expected to be actively involved in the development of this project: 20

5.2 Scope: This document provides guidance for an objective evaluation of lithium-based energy storage technologies by a potential user for any stationary application. This document is to be used in conjunction with IEEE Std 1679, IEEE Recommended Practice for the Characterization and Evaluation of Emerging Energy Storage Technologies in Stationary Applications.

For the purposes of this document, lithium-based batteries include those secondary (rechargeable) electrochemistries with lithium ions as the active species exchanged between the electrodes during charging and discharging. Examples of secondary lithium-based batteries are lithium-ion, lithium-ion polymer, lithium-metal polymer and lithium-sulfur batteries. Primary (non-rechargeable) lithium batteries are beyond the scope of this document.

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mobile applications, the information provided is applicable to electric vehicle or similar batteries that are repurposed for use in stationary applications. This document also applies to batteries that are stationary when in operation but are intended to be relocated, for example, containerized or trailer-mounted systems.

The outline of IEEE Std 1679 is followed in this document, with tutorial information specific to lithium-based batteries provided as appropriate. Examples of tutorial information include technology descriptions, operating parameters, failure modes, safety information, battery architecture, qualification and application considerations.

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

5.4 Purpose: Lithium-based batteries have been used in various, non-stationary applications for many years. They are now beginning to be used in stationary applications, and as such there is a need to provide appropriate information on safety and operating conditions related to these applications. End-users would benefit from having a guide to assist in evaluation of this technology for stationary applications.

Used with IEEE Std 1679, this guide describes a format for the characterization of lithium-based battery technologies in terms of performance, service life and safety attributes. This format will provide a framework for developers and manufacturers to describe their products. The resulting information will assist users, integrators and servicing organizations in evaluating the possible use of these batteries in stationary applications and to provide objective criteria for comparative evaluation.

5.5 Need for the Project: The performance, service life and safety of lithium batteries are very different than the traditional lead-acid and nickel cadmium stationary batteries. There is a need for an objective and comparative method for evaluating lithium batteries in these applications.

5.6 Stakeholders for the Standard: Developers and manufacturers, as well as end-users, integrators and service organizations will all benefit from the ability to define criteria that will allow objective and comparative criteria to judge the performance, service life and safety of lithium batteries in stationary applications.

Intellectual Property

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

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 Joint Development

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

8.1 Additional Explanatory Notes: Scope (5.2) modified in response to ballot comment to clarify the position regarding mobile/transportable batteries.