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IEEE Guide for Test and Evaluation of Lead-Acid Batteries Used in Photovoltaic (PV) Hybrid Power Systems

Developed by the
IEEE Standards Coordinating Committee 21 on Fuel Cells, Photovoltaics, Dispersed Generation, and Energy Storage

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Abstract: This guide is specifically prepared for a PV/engine generator hybrid power system, but may also be applicable to all hybrid power systems where there is at least one renewable power source, such as PV, and a dispatchable power source, such as an engine generator. Taper-charge parameters for PV hybrid systems are suggested to help in preparing the battery for a capacity test. A test procedure is provided to ensure appropriate data acquisition, battery characterization, and capacity measurements. Finally, a process to review test results and make appropriate decisions regarding the battery is provided. No cycle-life predictions are made.

Keywords: battery testing, IEEE 1661™, lead-acid battery charging, lead-acid battery testing, PV hybrid battery test, PV system testing

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