

Performance Assessment of Baseline Cells for the High Efficiency Space Power Systems Project



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Reviews

Complete guide! Its this kind of very good read through. This is certainly for all who statte there was not a worthy of looking at. I am just quickly will get a delight of looking at a composed publication. (Kacie Carroll)

PERFORMANCE ASSESSMENT OF BASELINE CELLS FOR THE HIGH EFFICIENCY SPACE POWER SYSTEMS PROJECT

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BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 26 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. The Enabling Technology Development and Demonstration (ETDD) Program High Efficiency Space Power Systems (HESPS) Project, formerly the Exploration Technology Development Program (ETDP) Energy Storage Project is tasked with developing advanced lithium-ion cells for future NASA Exploration missions. Under this project, components under development via various in-house and contracted efforts are delivered to Saft America for scale-up and integration into cells. Progress toward meeting project goals will be measured by comparing the performance to these cells with cells of a similar format with Saft's state-of-the-art aerospace chemistry. This report discusses the results of testing performed on the first set of baseline cells delivered by Saft to the NASA Glenn Research Center. This build is a cylindrical DD geometry with a 10 Ah nameplate capacity. Testing is being performed to establish baseline cell performance at conditions relevant to ETDD HESPS Battery Key Performance Parameter (KPP) goals including various temperatures, rates, and cycle life conditions. Data obtained from these cells will serve as a performance baseline for future cell builds containing optimized ETDD HESPS developed materials. A test plan for these cells was developed to measure cell performance against the high energy cell KPP goals. The goal for cell-level specific energy of the high energy technology is 180 Wh/kg at a C10 discharge rate and 0°C. The cells should operate for at least 2000 cycles at 100 percent DOD with 80 percent capacity retention. Baseline DD cells delivered 152 Wh/kg at 20°C. This number decreased to 143.9 Wh/kg with a 0°C discharge. This report provides performance data and summarizes results of the testing performed on the DD cells. This item ships from La Vergne, TN. Paperback.

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