

## **FLYWHEEL BATTERY COMMERCIALIZATION STUDY**

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### **ABSTRACT**

The purpose of this study was to explore the feasibility of producing and marketing high energy-density flywheel batteries, already being developed and demonstrated as load leveling devices for electric and hybrid vehicles, as part of an uninterruptible power supply for utilities or their customers. Tasks in this study included fault analysis, system requirements, design trade-offs, market assessment, manufacturing studies, electrical modeling and simulation, and commercialibility assessment including risk assessment. Data and other findings are presented in support of the conclusion that there is a sizeable potential market for flywheel battery-UPS systems at 250-kW capable of 0-15 seconds of ride-through capability for the industrial power quality sector, if such systems can compete economically with battery-UPS systems. In order for this to happen it is found that the flywheel battery system needs to reach market at a price from \$150-\$400/kW. Manufacturing analysis indicates that this selling price can be reached in production quantities totaling between 1,000 and 10,000 systems.