

battery leading to the manufacture and testing of a 5 MW h BEST battery. In addition to the specified RD&D, information will be provided on the potential recyclability, the environmental impact, and the safety factors of lead-acid batteries. The annual cost and design study of a lead-acid load leveling battery system based on the developed advanced concepts will be carried out to identify areas of improvement for further development effort.

The program management and quality assurance plans for this effort are being prepared for ANL approval.

ADVANCED LEAD-ACID BATTERIES FOR ELECTRIC UTILITY LOAD-LEVELING APPLICATION

ESB, Inc., 19 West College Ave., P.O. Box 336, Yardley, PA 19067 (U.S.A.)

This project has just begun and it encompasses the research and development and demonstration of advanced lead-acid battery technology with major goals of increased cycle life of utility sized, stationary lead-acid batteries from the state-of-the-art of 2000 cycles to >3000 cycles at the reduced cost per cycle of $\sim 1.5 \text{ ¢/kW h cycle}^{-1}$ and a reduced operating and maintenance cost of $< 0.5 \text{ mil/kW h}$.

These goals are to be accomplished in three phases. The first phase (3 years) will emphasize cell design optimization accomplished through the evaluation of critical variables affecting battery energy output, energy efficiency and cycle life. Tests will be conducted using full size cells. Phases II and III (3 years) will emphasize the engineering development of advanced lead-acid battery design, the manufacture and testing of a 5 MW h BEST battery incorporating cost reduction and improved life design. In addition to the specified RD&D, information will be provided on the potential recyclability, the environmental impact, and the safety factors of lead-acid batteries. An annual cost and design study of the lead-acid load leveling system using the results of advanced concepts developed will also be provided. During this period, the program management and quality assurance plans for this effort were completed.

BATTERY ENERGY STORAGE TEST (BEST) FACILITY

Public Service Electric and Gas Company, 80 Park Place, Newark, NJ 07101 (U.S.A.)

The objective of this work is the design (Phase I), construction (Phase II), and acceptance testing (Phase III) of a national test facility to evaluate