

# **THE ANNUAL REVIEW OF THE DOE ENERGY STORAGE PROGRAM**

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Energy storage is a vital component for the solution of two of the main challenges to the electricity delivery business: reliability for the digital society and transmission congestion resulting from a restructured utility industry. Storage is, in fact, the only technology which can provide seamless power during the frequent outages and power quality events on the grid. It has the potential of saving U.S. industry many billion dollars in downtime costs. As a peak shaving tool during times of transmission overload or during price peaks, storage allows more efficient allocation of energy resources without producing additional emissions.

The Department of Energy's research program on Energy Storage Systems, managed by Sandia National Laboratories, is part of the Office of Distributed Energy Resources. The aim of the program is the development of a broad portfolio of storage technologies for a wide spectrum of applications. The program funds development of storage systems based on advanced batteries, flywheels, and ultracapacitors. Installed systems are monitored to obtain operational and economic data. It supports subsystem development including novel approaches to power electronics and control systems. Analytical studies explore the feasibility of new applications. Throughout, the focus of the program lies in developing integrated systems. Projects are competed and, where appropriate, substantially costshared.

The Energy Storage program takes pride in maintaining close contacts with stakeholders in industry, the utilities, trade organizations, and State energy programs. These partnerships serve to fund joint research, exchange reviewers, and encourage new storage applications. In particular, the DOE program works with the Electricity Storage Association to organize a biennial conference on Energy Storage Systems Applications and Technologies (EESAT) which has developed into an effective international forum on energy storage. The next EESAT conference will take place in April 2002 in San Francisco. For details see <http://www.sandia.gov/EESAT/>

The DOE Energy Storage program maintains an Annual Program Review which serves a number of important purposes. To begin, it is an opportunity of program contractors to demonstrate the progress and accomplishments of their projects. In turn, the Review provides program management with a comprehensive survey of program status which forms the basis for strategic planning and determining future directions of research. Moreover, over the years the Annual Review has become an effective showcase of DOE energy storage research for an audience of industry representatives, potential customers, and fellow scientists and engineers. Finally, by bringing all these participants together, the meeting stimulates direct interactions between the presenters, the reviewers, and the audience at large. While reviewing the labors of the past, the Review opens new pathways for research, for project development, and for commercialization.

This year again, the program has availed itself of a distinguished international panel of reviewers to evaluate the projects, providing specific comments and numerical scores. I would like to thank the presenters, the participants, and the reviewers for making this Annual Review a successful event.

