

EESAT 2005 SESSIONS & TOPICS

Economics and Policy

Estimating the Value of Electricity Storage: Some Size, Location and Market Structure Issues

– Thomas Jenkin (NREL)

Balancing Costs and Benefits with a Combination of Storage and Generation

– Jim McDowall (SAFT)

Deployment of Distributed Energy Storage System at American Electric Power

– Larry Dickerman (AEP)

Economic Opportunity of Storage Systems and Distributed Production Plants as Alternatives to 1- to 10-MW Power Generating Units for Energy First Aid or Rubbing-out Periods in Industrial Sites – Régine Clavreul (Electricité de France)

Energy Storage: Why So Few Pay Attention – Jason Makansi (Pearl Street)

Evaluating Risk-adjusted Cost for Electric Utility T&D Using Modular Distributed Energy Resources

– James Eyer (DUA)

Benefit and Cost Comparisons of Energy Storage Technologies for Three Viable Emerging Value Propositions – Susan Schoenung (Longitude 122 West)

NYSERDA / DOE Energy Storage Initiative

Advanced 1-MW, 7-MWh, Peak-shaving, Sodium-sulfur Battery Energy Storage Project at Long Island Bus – Yan Kishinevsky (New York Power Authority)

Residential Energy Storage and Propane Fuel Cell Demonstration Project by the Delaware County Electric Cooperative, Inc. – Mark Schneider (Delaware County Electric Co-op.)

Electric Energy Storage: Opportunities and Challenges in New York State

– Rahul Walawalkar (Customized Energy Solutions)

Mini-compressed Air Energy Storage for Transmission Congestion Relief and Wind Shaping Applications – Jim Jewitt (Tadanac Energy Advisors) & Michael Fischback (Black & Veatch)

Status Update on the NYSERDA/DOE Joint Energy Storage Initiative Projects

– Jeff Lamoree (ENERNEX)

Advanced Batteries

Bipolar Nickel-Metal Hydride High-power and Energy Storage Batteries for Utility Applications

– James Landi (EEI)

The Design of VRLA Batteries for Successful Operation in a High-rate, Partial-state-of-charge Regime – Patrick Moseley (ILZRO)

Field Test Results for a 1-kW, 50-kWh Vanadium Redox Flow Battery
– Martha Schreiber (Funktionswerkstoffe F & E GmbH)

Electro-Chemical Capacitors

Accelerated Cycle-life Testing on the Cyclon Lead-acid Battery
– Tom Hund (Sandia National Laboratories)

Ultracapacitors and Batteries in Wind Power Systems Control and Operation
– Raili Alanen (VTT {Processes})

Status Report 2005 on Capacitor Storage Systems - ECaSS®
– Michio Okamura (Power systems Co.)

Principle of Hybrid Energy Storage Systems Based on Hydro-pneumatics and Supercapacitors for Distributed Generation and Renewable Energy Sources Support
– Sylvain Lemoufouet (Swiss Federal Institute of Technology)

Alternative Concepts

Pumped Storage for the Distributed Generation Market
– John Halloran (ProPower Resources, Inc.)

Delta Tandem Kinetic Battery Concepts – Dale Van Cor (Van Cor Transmission)

Test and Evaluation of Heat Transfer Parameters for Transportable CAES Tank System
– Paul Lieberman (Lieberman Research Associates)

Flywheels

Challenges and Solutions for the Use of Flywheel Energy Storage in High-power Applications – John Herbst (Univ. of Texas at Austin)

Use of Flywheels in High-cycling Applications – Octavio Solis (Vycon)

Improvement of Electric Power Quality Using a Small Flywheel with a Squirrel-cage Induction Motor – Shuhei Kato (Tokyo Institute of Technology)

Results From A 750 kVA Flywheel-UPS Demonstration – Frank DeLattre (Penta Dyne)

Design, Fabrication, and Testing of a 5-kWh Flywheel Energy Storage System Utilizing a High Temperature Superconducting Magnetic Bearing – Philip Johnson (Boeing Phantom Works)

Renewable and Distributed Energy

Dependable Energy Supply from Fluctuating Natural Sources - A Case for Energy Storage
– Werner Leonhard (Technical Univ. at Braunschweig, Ger.)

Australian Government Support for Renewable Energy and the Advanced Electricity Storage Technologies Programme – Denis Smedley (Australian Greenhouse Office)

Using Energy Storage to Ease Integration of Wind Generation with the Power Grid
– Steve Eckroad (Electric Power Research Institute)

Subaru Project: Field Test of Energy Storage Systems for Stabilization of 30.6-MW Wind Farm
– Gentaro Koshimizu (Electric Power Development, Ltd.)

Optimizing Off-grid Hybrid Generation Systems – Garth Corey (Sandia National Laboratories)

Overcoming Transmission Constraints: Energy Storage and Wyoming Wind Power
– Mindi Farber de Anda (Science Applications International Cooperation)

HybSim 3.3 - Hybrid Generation Simulator Model – David Trujillo (Sandia National Laboratories)

Impact of CAES on Wind in Texas, Oklahoma, and New Mexico
– Jim Jewitt (Tadanac Energy Advisors, Ridge Energy)

Power Electronics

An Approach to Improving the Physical and Cyber Security of a Bulk Power System with FACTS – Mariesa Crow (Univ. of Missouri at Rolla)

Progress on a 100-kw, Low-cost Energy Storage Inverter – Larry Rinehart (Rinehart Motion Systems)

Progress on a Transmission Ultracapacitor (TUCAP) Integrating Emitter Turn-off (ETO) Thyristor with an Electrochemical Capacitor – Chong Han (North Carolina St. Univ.)

High-power Silicon Carbide Inverter Design 100-kW Grid Connect Building Blocks
– Leo Casey (SatCon)

An Advanced Power Converter System Based on High-temperature, High-power-density SiC Devices – Timothy Lin (Aegis Technologies)

A Very-high-temperature (400+ C°) Inverter for Storage Applications Utilizing Silicon on Insulator (SOI) and Silicon Carbide Electronics – Roberto Schupbach (Arkansas Power Electronics)

Compressed Air Energy Storage (CAES)

Integrated Wind Energy with Compressed Air Energy Storage for Dispatchable Generation
– Jeffery Greenblatt (Princeton Univ.)

Compressed Air Energy Storage (CAES) Coupled with GasTurbine Air Injection (AI) Makes Renewables and Wind Power More Economic – Michael Nakhamkin (ESPC)

Thermal And Compressed-Air Storage (TACAS): The Road To Commercialization
– John Sears (Active Power)

CEC (California Energy Commission) / DOE Energy Storage Collaboration

Ultracapacitor EnergyBridge™ UPS for Palmdale Water District

– Chris McKay (Northern power Systems)

Flywheel-based Frequency Regulation Demonstration Projects

– Matthew Lazarewicz (Beacon Power)

Demonstration of a 2-MWh Peak Shaving Z-BESS – Peter Lex (ZBB Energy Corporation)

Web-based Energy Storage Monitoring – Interim Results of the CEC / DOE Demonstrations

– Doug Dorr (EPRI Solutions)