

**STATE OF CALIFORNIA**  
California Energy Commission

Minutes of the April 22, 2009, Energy Commission Business Meeting.

The meeting was called to order at 10:04 by Chairman Karen Douglas. The Pledge of Allegiance was led by Chairman Douglas.

Present:

Karen Douglas, Chairman  
James D. Boyd, Vice Chair  
Arthur H. Rosenfeld, Commissioner  
Jeffrey D. Byron, Commissioner  
Julia A. Levin, Commissioner

1. CONSENT CALENDAR. (Items on the Consent Calendar will be taken up and voted on as a group. A commissioner may request that an item be moved and discussed later in the meeting.)
  - a. BUILDING WORKFORCE PARTNERSHIPS CONFERENCE 2009. Possible approval of \$4,950 and use of the Energy Commission's name and logo for co-sponsorship of the Building Workforce Partnerships Conference 2009 – The Great Transition, May 27-28, 2009, in San Jose. The event will focus on developing an effective approach to economic stimulus, energy independence and the creation of 'green' jobs. (ERPA funding.) Contact: Panama Bartholomy.
  - b. ELECTRICITY ENERGY STORAGE ASSOCIATION ANNUAL MEETING. Possible approval of \$4,999 and use of the Energy Commission's name and logo for co-sponsorship of the annual Electricity Energy Storage Association Meeting in Washington, D.C. May 20-22, 2009. Participation in this effort will highlight and promote the Energy Commission's efforts as a pioneer in energy storage technology and project development. (ERPA funding.) Contact: Pramod Kulkarni.

*Commissioner Rosenfeld moved and Commissioner Levin seconded approval of the Consent Calendar. The vote was unanimous. (5-0)*

2. INVESTMENT PLAN FOR THE ALTERNATIVE AND RENEWABLE FUEL AND VEHICLE TECHNOLOGY PROGRAM. Possible adoption of the *Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program*. The purpose of the program is to develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies. The Energy Commission is required to develop and adopt the *Investment Plan* to determine priorities and opportunities for the program, describe how funding will complement existing public and private investments, and serve as a guide for funding decisions. Contact: Mike Smith. (30 minutes)

*Commissioner Boyd moved and Commissioner Rosenfeld seconded approval of the Investment Plan, including errata as corrected to reflect comments made today. The vote was unanimous. (5-0)*

3. WATSON COGENERATION STEAM AND ELECTRIC RELIABILITY PROJECT (09-AFC-01). Contact: Eric Knight. (10 minutes)

- a. Possible approval of the Executive Director's data adequacy recommendation for the Watson Cogeneration project, a nominal 85 megawatt proposed expansion of a steam and electrical generating facility located in the City of Carson, Los Angeles County.

*Commissioner Byron moved and Commissioner Rosenfeld seconded approval of the Executive Director's recommendation that the AFC be found data inadequate at this time. The vote was unanimous. (5-0) As a result, Item 3.b was not heard.*

- b. Possible appointment of a siting committee for the Watson Cogeneration project.

4. CPS HUMAN RESOURCES SERVICES. Possible approval of Contract 200-08-005 for \$60,900 with CPS Human Resources Services to revise class specifications specific to the Energy Commission and perform other work associated with the consolidated classification proposal submitted to the Department of Personnel Administration in May 2008. Contact: Gina Tosi-Smith. (5 minutes)

*Item 4 was moved to the May 6 Business Meeting agenda.*

5. ANDES CONSULTING, LLC. Possible approval of Purchase Order 08-409.00-001A for \$25,000 to amend the existing purchase order with Andes Consulting, LLC for technical support, maintenance and development of new baseline requirements for the Energy Commission's Personnel Office Roster System. (ERPA funding.) Contact: Larry Smith. (5 minutes)

*Commissioner Boyd moved and Commissioner Rosenfeld seconded approval of Purchase Order 08-409.00-001A. The vote was unanimous. (5-0)*

6. ENERGY INNOVATION SMALL GRANTS PROGRAM. Possible approval of \$661,470 for seven proposals from Solicitation 08-01 of the Energy Innovations Small Grants Program. (PIER funding.) Contact: Mike Gravely. (5 minutes)

- a. 08-01-12, University of California Davis, Davis, CA, *Feasibility Study of Novel Biochemical Route for Ethanol Production*, \$95,000. Proposes to prove the feasibility of a novel "biochemical" platform that will be a more consolidated and cost-effective way to produce ethanol from cellulosic material.
- b. 08-01-03, Rutgers University, North Brunswick, NJ, *Flexible Zinc and Copper Oxide Based Solar Cells*, \$95,000. Proposes to integrate a low cost, non-toxic transparent conductor oxide in dye sensitized solar cells and solid-state solar cells to remove costly and environmentally harmful elements, make the technology more efficient, and reduce the overall cost of production.
- c. 08-01-14, University of California San Diego, San Diego, CA, *Micro-optic Slab Concentrators for Low Cost Solar Panels*, \$95,000. Proposes to prove the feasibility of designing a new class of solar concentrators with a micro-optic patterned "s," which can become the first inexpensive, mass-producible, 500x concentrator needed

for highly efficient, multi-junction photovoltaic cells.

- d. 08-01-23, University of Florida, Gainesville, FL, *Biomimetic Antireflection Coatings for Highly Efficient Solar Cells*, \$95,000. Proposes to prove the feasibility of using bio-inspired, nano-structured anti-reflection coating using an inexpensive and scalable nano-fabrication to increase conversion efficiency and reduce manufacturing cost for crystalline silicon solar cells
- e. 08-01-55, University of California San Diego, San Diego, CA, *Semiconductor Quantum Dot Based Heterostructures for High Efficiency Photovoltaics*, \$95,000. Proposes to prove the feasibility of using semiconductor heterostructures, incorporating self-assembled quantum dots, to improve the power conversion efficiency of photovoltaic devices by a substantial factor beyond that of conventional single homojunction photovoltaic devices.
- f. 08-01-38, Proctor Engineering Group, Ltd., San Rafael, CA, *Proportional Time Delay Relay for Air Conditioner Latent Capacity Recovery*, \$91,470. Proposes to prove the feasibility of using a proportional time delay technology to recover air conditioner cooling capacity that is wasted once the compressor turns off
- g. 08-01-02, Illinois Institute of Technology, Chicago, IL, *Proof-of-concept of Co-production of Electric Power and Lithium from Geothermal Fluids*, \$95,000. Proposes to prove the feasibility of using a novel compound ion separator for co-producing marketable by-products, such as lithium, from geothermal fluids by separating out valuable by-products in geothermal plants in California.

*Commissioner Boyd moved and Commissioner Levin seconded approval of the seven grant proposals. The vote was unanimous. (5-0)*

- 7. ENERGY INNOVATIONS SMALL GRANTS PROGRAM. Possible approval of \$361,577 for four proposals from Solicitation 08-01T of the Energy Innovations Small Grants Program. (PIER funding.) Contact: Ken Koyama. (5 minutes)
  - a. 08-01-02T, O. Seta Bogosyan, University of Alaska, Fairbanks, AK, *Optimized SHEV Control Strategies for Reduced Fuel Consumption and Emissions*, \$95,000. The key concept is to increase engine efficiency by creating a control system in a series hybrid electric vehicle utilizing fuzzy logic to respond to multiple variables encountered in varying driving patterns and direct robust controllers to reduce internal combustion engine use.
  - b. 08-01-20T, James D. Van de Ven, Worcester Polytechnic Institute, MA, *Flywheel Hybrid with Switch-Mode Continuously Variable Transmission Concept Validation*, \$87,027. The key concept is to increase efficiency by applying switch-mode control to the transmission of a hybrid vehicle to allow a flywheel system to be engaged for energy storage and disengaged for energy utilization.
  - c. 08-01-07T, Vic Grosvenor, Spark Technologies, Woodland Hills, CA, *Evaluation of Porosity Additives in Lithium Ion Batteries*, \$84,550. The objective of this project is to increase battery storage capacity. The key concept is to incorporate porosity additives into cathode materials used in lithium ion batteries in order to increase the diffusion of lithium ions through the active material.

- d. 08-01-21T, Yushan Yan, University of California, Riverside, CA, *Metallic Nanotubes as Low-Cost and Durable Fuel Cell Catalysts*, \$95,000. The key concept is to reduce battery costs and increase durability by increasing the surface area of platinum nanotubes from 20 m<sup>2</sup>/g to 60 m<sup>2</sup>/g thereby increasing platinum utilization and reducing carbon corrosion.

*Commissioner Boyd moved and Commissioner Byron seconded approval of the four grant proposals. The vote was unanimous. (5-0)*

8. **Minutes:** Approval of the April 8, 2009, Business Meeting Minutes.

*Commissioner Boyd moved and Commissioner Rosenfeld seconded approval of the Minutes. The vote was unanimous. (5-0)*

9. **Commission Committee Presentations/Discussion:** None
10. **Chief Counsel's Report:** Chief Counsel Bill Chamberlain gave the report.
11. **Executive Director's Report:** Executive Director Melissa Jones gave the report.
12. **Legislative Director's Report:** None
13. **Public Adviser's Report:** None
14. **Public Comment:** None

#### **Appearances**

Ms. Jill Egbert, Pacific Gas and Electric Company  
Ms. Maureen Gorsa, RenTech  
Mr. Russell Teall, Biodiesel Industries  
Mr. Todd Campbell, Clean Energy  
Ms. Bonnie Holmes-Gen, American Lung Association of California  
Mr. Jack Kitowski, California Air Resources Board  
Mr. Pet Price, California Natural Gas Vehicle Coalition  
Mr. Richard Lyon, CyberTran International, Inc.  
Mr. Tim Carmichael, Coalition for Clean Air  
Ms. Jeanine Trombly, Plug In America  
Mr. Mark Aubry, Smith Electric Vehicles  
Mr. Ben Ovshinsky, EDI Efficient Drive Trains, Inc.  
Mr. John Shears, Center for Energy Efficiency and Renewable Technologies  
Ms. Kristin Macey, California Department of Food and Agriculture  
Mr. Ross Metersky, BP Alternative Energy

There being no further business, the meeting was adjourned at 11:58.

Respectfully submitted,

HARRIET KALLEMEYN  
Secretary to the Commission