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# DOE Solar Energy Technologies Program Peer Review

**Technical Track: Market Transformation**

**Project Name: Stakeholder Outreach & SNL FOA Support**

**Principal Investigator: Tom Mancini, SNL**

**Denver, Colorado**

**March 9-10, 2009**



## **This Project Topic Area includes:**

- **Outreach to Government Entities, NGOs, Utilities and the Public (SNL and NREL)**
- **Support of DOE-Funded Activities (FOA-funded projects SNL)**
- **Support of the CSP industry (existing Program funding at SNL)**

**This activity involves most of the SNL staff.**

**As activities become more substantial, they may become separate projects under Market Transformation.**

**SNL Funding: \$250K Stakeholder; \$300K FOA in FY09**



- **Bureau of Land Management: Helping to evaluate BLM POD submissions for CSP-specific issues; presentations to AZ, NM, BLM offices; support of the development of a PEIS**
- **Meetings with and presentations to government and regulatory officials in New Mexico, Utah, and California.**
- **“CSP Technology, Markets and Policy Impacts”, KPM Vice President and Nobel Laureate Al Gore, January 2008, New York, New York.**
- **National Academies of Science “Big Solar Meeting”, Jan 2008**
- **“CSP Status and Technology”, DOE State Energy Advisors Board, Albuquerque, NM, April 2008.**
- **CSP overview to the Western Interstate Energy Board (WIEB) Committee on Regional Electric Power, April 2008, San Diego, CA**
- **“CSP Technology and Status”, House Committee on Energy, Washington, DC, May 2008.**



- **“Utility Scale Solar: Opportunities and Obstacles” to U.S. House Subcommittee on Energy and Environment, Field Hearing, March 2008, Tucson, Arizona.**
- **“CSP Technology and Status”, U. S. Senate Committee on Energy and National Resources, Field Hearing, July 2008, Albuquerque, NM**
- **CSP overview to National Association of Regulatory Utility Commissioners (NARUC)’ Summer Annual Meeting, July 2008, Portland, Oregon.**
- **“CSP Technology and Status”, GovEnergy, Phoenix, AZ, August, 2008.**
- **Solar Electric Power Association, Short Course on CSP, San Diego, CA, Oct 2008.**
- **“CSP Status and Technology”, BLM Brown to Green: Renewable Energy Conference, Santa Fe, NM, December 2008.**
- **Approximately 40 tours of the NSTTF for industry and various government and DOD officials**



FOA Activities (DOE funded R&D. Laboratories to monitor Phase I activities and provide support in Phases II and III. All but one of the projects is in Phase I. SNL)

- Infinia 30 kW FPSE engine (Diver, Andraka): Multi-cylinder, free-piston Stirling engine for dish engine systems. Provided design support for engine and receiver design.
- Infinia 3kW On-Sun Test (Diver): Development of a 3kW dish Stirling system for distributed generation applications. Dish and receiver design support provided. Preparing to install and test system at the NSTTF.
- Brayton Energy Dish System (Andraka, Mancini): Receiver design and flux profile support provided. Systems integration support.
- SYMYX molten salt (Bradshaw, Cordaro): Development of molten salt compositions by application of a robotic combinatorial technique.



FOA Activities (DOE funded R&D. Laboratories to monitor Phase I activities and provide support in Phases II and III. All but one of the projects is in Phase I.)

- Hamilton Sundstrand Molten Salt Receiver Test (Siegel, Ghanbari): Design of a next-generation Molten-Salt Receiver. On-sun testing of a receiver panel during Phase III.
- Hamilton Sundstrand Pump and valve tested (Siegel, Raymond, Mancini): Testing of components in support of MS systems design. Interest in testing a long-shafted, cantilever pump.

## DOE-Funded non-FOA Activities

- EPRI Solar Augment (Kolb, Mancini): Analysis support of Electric Power Research Institute, fuel-saver approach for solar input to a coal-fired or combined cycle power plant.
- SkyFuel Trough Collector Test: On sun testing at the AZTRAK of the new SkyFuel trough collector design.



## **Other activities supported by SNL's existing Program funding or through work for others agreements.**

- Hamilton Sundstrand Testing of an advanced heliostat design at long slant length. (Kolb, Ghanbari)
- Lockheed Martin trough collector design support (Mancini, Kolb)
- ALCOA Trough collector on-sun testing (Mancini, Kolb)
- eSolar analysis of power tower systems (Kolb)
- California Energy Commission Glint analysis (Ho, Ghanbari)



- **Expand BLM support activities as appropriate**
- **Continue State, Industry and Utility Support activities**
- **Explore CSP-specific transmission issues**
- **Develop international agreements on R&D**
- **Expand CSP participation in various advocacy groups around the SW**
- **Reach out and provide information to environmental groups in the SW**
- **Develop closer linkage with project developers**
- **Develop a design assistance center to address short-term stakeholder questions on CSP**