

## Press Release

### U.S. Department of Energy selects SkyFuel to develop advanced Concentrating Solar Power (CSP) system.

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**Albuquerque, New Mexico Thursday 29 November, 2007:** The U.S. Department of Energy Solar Energy Technologies Program (DOE/SETP), announced today that it is awarding SkyFuel, Inc. a \$435,000 grant to develop its advanced Concentrating Solar Power (CSP) system known as the Linear Power Tower™ (LPT™) for utility-scale solar thermal power plants. The LPT™ is a, high-temperature linear Fresnel system that is regarded as the most promising new CSP concept currently under development.

SkyFuel Chief Technology Officer Randy Gee, speaking from SkyFuel's Arvada, Colorado R&D center said he was very grateful for the DOE's decision. "We are deeply appreciative of the Department of Energy's support for concentrating solar power. This grant comes at the right time not just for our R&D program but also for the marketplace. Electric utilities and their customers throughout the Southwest are clamoring for clean, carbon-free, affordable, on-demand solar power. The Linear Power Tower™ with molten salt storage is the kind of system that could meet this need."

The Department of Energy's Assistant Secretary for Energy Efficiency and Renewable Energy, Alexander Karsner, announced the DOE's commitment to concentrating solar power at the American Council of Renewable Energy (ACORE) annual conference in Washington, DC. "Under the President's leadership, DOE is not only supporting research and development of clean energy technologies, but is accelerating their commercialization to a rate and scale necessary to meet growing energy demand and combat climate change."

SkyFuel Founder and Chief Executive Officer Dr. Arnold Leitner says the DOE grant will enhance the company's existing technology development partnerships with the National Renewable Energy Laboratory (NREL) in Golden, Colorado, and Sandia National Laboratories in Albuquerque, New Mexico which include co-operative research and development programs and use of both labs' world-class testing facilities. SkyFuel is also engaged in a joint project with the University of New Mexico (UNM) supported by a grant from Governor Bill Richardson's Energy Innovation Fund. "Without the help we get from NREL, Sandia, UNM and Governor Richardson's office we would not have been as well prepared for the DOE" said Dr. Leitner who was also attending the ACORE conference. "Now we are all in a great position to continue collaborating on cutting edge, commercially viable solar thermal power technologies."

The DOE/SETP grant will complement SkyFuel's commercialization of the SkyTrough™, a highly efficient and low cost parabolic trough concentrator. The SkyTrough™ utilizes a lightweight space frame and a glass-free reflective surface that significantly reduce the cost of the solar thermal system. The DOE/SETP grant provides funding for the next generation CSP system beyond the SkyTrough™. With the DOE's support SkyFuel plans to deploy the Linear Power Tower™ by 2011.

SkyFuel Senior Technical Advisor and CSP industry pioneer, Dr. David Kearney helped to prepare the SkyFuel grant application and points out that while there are other companies working on linear Fresnel technology and some developing molten salt technology for parabolic trough systems, SkyFuel is aggressively moving forward to combine the technologies into a single system. "By merging the cost saving attributes of the linear Fresnel system with the high

temperature and storage capabilities of molten salt, the SkyFuel project is focused on achieving an advanced, more cost-effective commercial solar thermal power plant design.”

Current-generation linear Fresnel CSP concepts all involve heating pressurized water in the heat receiver pipes at low temperatures primarily for industrial process heating and, possibly, for electricity generation. SkyFuel believes these existing efforts have demonstrated the considerable promise of the linear Fresnel-type geometry, but that pursuing higher temperatures and thermal energy storage with molten salt will be a crucial innovation to make linear Fresnel systems useful for electric power generation.

A molten-salt linear Fresnel system with direct storage provides energy that will be both less expensive and available when the market demands it most.

SkyFuel will use the DOE funding to develop the Linear Power Tower™ and molten salt storage system in three phases:

- Phase One will focus on the conceptual design for the LPT™ system, providing a critical baseline for further testing and leading to the manufacture of a prototype.
- Phase Two will include the design and testing of critical subsystems including the reflectors, receivers, drives and controls and will culminate in the testing of a complete small-scale Linear Power Tower™ segment – bringing to life the conceptual model that was built in Phase One. The results of these tests will provide an opportunity for re-design before moving on to Phase Three.
- Phase Three will be a pilot deployment of sufficient size to verify the commercial readiness of the LPT™. The objective of this phase is to achieve the DOE's goals of delivering a commercially viable and cost/performance competitive CSP system to the market that uses thermal energy storage.

The work on this project will be supported by both of SkyFuel's two main offices in Albuquerque, NM and Arvada, CO. The Arvada office, dubbed SkyWorks™, is SkyFuel's official research and development center. SkyWorks™ is equipped with a machine shop, lab and large outdoor testing area to allow for the prototyping and conceptual experiments necessary for this project.

Other technical team members located at SkyFuel's Albuquerque corporate headquarters will be focused on the analytical, computational and design work to compliment the fabrication efforts taking place at SkyWorks™ in Arvada.

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SkyFuel, Inc. is emerging as a world leader in the design and deployment of concentrating solar power (CSP) systems. The company delivers turnkey large-scale solar plants that produce steam for power generation, desalination, wastewater treatment, and other industrial applications. SkyFuel's solar plants can be integrated into existing facilities using its proprietary FuelSaver™ approach, or can be built as stand-alone solar power plants.

SkyFuel is focused on the development of parabolic trough and linear Fresnel CSP systems, as well as thermal energy storage. With these technologies SkyFuel is creating solar technology that

can compete directly with fossil fuels, revolutionizing the energy industry and meeting the energy needs of a modern society while minimizing environmental impact.

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