



**FINDING OF NO SIGNIFICANT IMPACT**  
**DEPARTMENT OF ENERGY LOAN GUARANTEE TO ABENGOA SOLAR INC. FOR**  
**THE SOLANA CONCENTRATING SOLAR POWER FACILITY NEAR GILA BEND,**  
**ARIZONA**

**AGENCY:** U.S. Department of Energy, Loan Guarantee Program Office

**ACTION:** Finding of No Significant Impact

**SUMMARY:** The U.S. Department of Energy (DOE) has conducted an environmental assessment (EA) that analyzed the potential environmental impacts associated with a 280 Megawatt (MW) concentrating solar power (CSP) plant (Solana Generating Plant) and associated 230 kilovolt transmission line (Solana Gen-Tie) proposed by Abengoa Solar Inc. (Abengoa) near Gila Bend, Arizona (Solana Project). DOE, through its Loan Guarantee Program Office (LGPO), proposes to provide a Federal loan guarantee pursuant to Title XVII of the Energy Policy Act of 2005 (EPA 05), as amended by Section 406 of the American Recovery and Reinvestment Act of 2009, to Abengoa to support the construction and startup of the proposed facility.<sup>1</sup> The purpose of DOE's proposed action is to expedite the deployment of a new energy technology into commercial use in the U.S. and to reduce emissions of greenhouse gases and other air pollutants.

The Solana Project would use CSP technology to capture heat generated by sunlight and turn that heat into electricity. CSP works by using parabolic trough systems to concentrate energy from the sun through long, curved mirrors. Approximately 2,700 trough collectors covering roughly 1,757 acres would comprise the "solar field." The parabolic trough systems would be tilted toward the sun and focus sunlight on a pipe running down the center of the trough. Heat from sunlight would warm an organic synthetic oil, known as heat transfer fluid, which would flow through the pipe to the power island. The heat transfer fluid would serve as the working fluid of the collector field, and would provide a means for transferring the collected solar energy to the heat exchangers. The collected solar energy would be used to convert water to steam for use in a conventional steam turbine generator to produce electricity. The Solana Project would employ molten salt storage tanks to retain and store up to 6 hours of heat, which could be dispatched as needed, and would allow Solana to produce electricity on cloudy days and after sunset.

The Solana Project would interconnect to the regional transmission grid via the Solana Gen-Tie, which would originate at the Solana Generating Plant and terminate at the existing Arizona Public Service Company Panda Substation, approximately 18.2 miles east of the Solana Project. The Solana Gen-Tie would consist of transmission structures, single-circuit conductors (three wires), and two overhead ground wires, one of which would contain a fiber-optic cable to serve as a communications system for the Solana Project. The transmission structures would be steel

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<sup>1</sup> The amount requested for the loan guarantee is not being disclosed at this time because it is business sensitive. Moreover, should DOE approve a loan guarantee, the amount may differ from the original request.





monopoles approximately 100 to 140 feet tall, depending on the span length required, with a maximum height of 190 feet above the ground surface.

All discussion and analysis related to the potential impacts of construction and operation of the proposed Solana Project are contained in the Final EA (DOE/EA-1683), which is incorporated here by reference. DOE examined potential impacts on the following resources and found none to be significant: floodplains; wetlands; water resources and water quality; threatened or endangered species and critical habitats; prime or unique farmlands; geology and soils; visual, recreational, and aesthetic resources; property of historic, archaeological, or architectural significance; Native American concerns; environmental justice; public health and safety; air quality; global climate change; waste management; transportation; socioeconomic conditions; noise; and terrorism-related impacts.

In accordance with applicable regulations and policies, DOE sent a notification letter regarding the Department's determination to prepare an EA to American Indian Tribes, the Arizona Department of Environmental Quality and the City of Gila Bend on July 8, 2009. The letter described the proposed action and stated that a draft EA would be sent to the state for review. On April 6, 2010, DOE sent the Draft EA to American Indian Tribes, the Arizona Department of Environmental Quality, and the City of Gila Bend inviting their comments on the draft. The Draft EA was also posted on the Loan Guarantee Program Office website. DOE received a comment letter from the Arizona Department of Environmental Quality (AZ DEQ) on April 27, 2010, requesting clarification on the use of the sewage pumps mentioned in Table 3-7 (Sound Level Specifications for Standard Packaged Equipment) of the Draft EA. Information was added to the EA indicating that these are transfer pumps which channel wastewater from cooling tower blowdown to evaporation ponds and would not involve sewage. The letter also provided additional information regarding the process for various AZ DEQ permits that were listed in the EA at Table 2-1.

**DETERMINATION:** On the basis of the Final EA, DOE has determined that providing a Federal loan guarantee to Abengoa for construction and startup of a 280MW CSP facility and its associated transmission line near Gila Bend, AZ, will not have a significant affect on the human environment. The preparation of an environmental impact statement is therefore not required, and DOE is issuing this Finding of No Significant Impact.

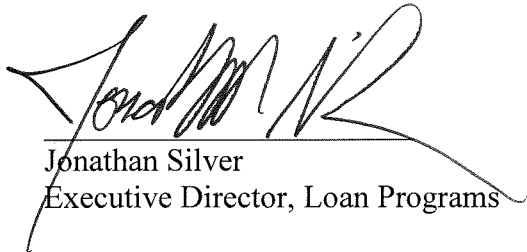
Copies of the Final EA are available at the DOE Loan Guarantee Program Office website at <http://www.lgprogram.energy.gov/NEPA-1.html> or from

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Additional information on the DOE NEPA process is available from:

Carol M. Borgstrom, Director  
Office of NEPA Policy and Compliance (GC-54)  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585  
202-586-4600 or 1-800-472-2756

Issued in Washington, DC on the 6<sup>th</sup> day of May in the year 2010.



Jonathan Silver  
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