

PMC-ND

(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION**



RECIPIENT: Abengoa Solar LLC

STATE: CO

PROJECT TITLE: Advanced Energy Tower, High Efficiency Receiver (AETHER)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001186	DE-EE0007115	GFO-0007115-001	

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

- A9 Information gathering, analysis, and dissemination** Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)
- B3.6 Small-scale research and development, laboratory operations, and pilot projects** Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.
- B5.17 Solar thermal systems** The installation, modification, operation, and removal of commercially available smallscale solar thermal systems (including, but not limited to, solar hot water systems) located on or contiguous to a building, and if located on land, generally comprising less than 10 acres within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Abengoa Solar LLC to develop the research and development pathway for high-temperature particle receivers, particle thermal energy storage system, an air-to-particle, direct-contact heat exchanger, and the integration of the technology with a standard, high-efficiency, air-and-steam, combined-cycle power block.

Activities associated with the proposed project include the design, development, and testing of high-temperature components subsystems for a novel Concentrated Solar Power (CSP) technology. Component-level development and testing would occur in-lab at the Abengoa Solar facility in Lakewood, Colorado and at Thermacore's facility located in Lancaster, PA. The prototype-level testing would occur at the National Solar Thermal test facility (NSTTF) at Sandia National Labs (SNL) in Albuquerque, NM at the top of a central receiver test tower and would be conducted for a period of two months. Each of these facilities is designed for the type of research that would be completed; therefore, no modifications or new permits, additional licenses and/or authorizations would be necessary, no major construction or ground disturbing activities would occur, nor would the mission or operation of the facility be altered.

Existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments. All work conducted at DOE laboratories may be subject to additional NEPA review by the cognizant NEPA Compliance Officer for the lab and will be required to meet the labs health and safety requirements.

No materials, hazardous or otherwise, would be used or produced during the course of this project. Only normal operating waste would be generated by each facility. No siting, construction or major expansion of waste storage,

disposal, recovery, or treatment actions/facilities would be required.

Based on review of the project information and the above analysis, DOE has determined the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that this project is consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination", B3.6 "Small-scale research and development, laboratory operations and pilot projects", and B5.17 "Solar thermal systems" and is therefore categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Insert the following language in the award:

You are required to:

All work conducted at DOE laboratories may be subject to additional NEPA review by the cognizant NEPA Compliance Officer for the lab and will be required to meet the labs health and safety requirements.

Note to Specialist :

Solar Energy Technologies Office
This NEPA determination requires a tailored NEPA provision.
Review completed by Rebecca McCord, 08/13/2015

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



Electronically Signed By: Kristin Kerwin

Date: 8/17/2015

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature:

Date:

Field Office Manager