

PMC-EF2a

(20+02)

**U.S. DEPARTMENT OF ENERGY  
EERE PROJECT MANAGEMENT CENTER  
NEPA DETERMINATION**



RECIPIENT: Abengoa Solar

STATE: CO

**PROJECT TITLE :** Baseload Nitrate Salt Central Receiver Power Plant Design

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
	DE-EE0003596	GFO-0003596-001	GO3596

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:

<b>A9 Information gathering, analysis, and dissemination</b>	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.)
<b>B3.6 Small-scale research and development, laboratory operations, and pilot projects</b>	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.
<b>B5.17 Solar thermal systems</b>	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.

**Rational for determination:**

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Abengoa Solar to develop new nitrate salt central receiver technology utilizing a surround heliostat field. DOE funding would be used for engineering, optimization, lab testing, construction and testing of prototype pieces and cost estimation for an advanced molten salt tower.

Component testing of drives, sensors and mirror facets would be conducted at Abengoa Solar, located at 11500 West 13th Ave., Lakewood, Colorado and a heliostat installation would occur at SolarTac, located at Hudson Road and East 26th Ave., Aurora, Colorado. A heliostat would be constructed at SolarTac on previously developed land, adjacent to other solar installations. The heliostat would be 3.5m high by 5.6 m long and 3.1 m wide. The heliostat and target are intended to sit on top of the ground with minimal disturbance. The equipment would run off battery or generator to eliminate the need to trench for electrical conduit. The heliostat would have 18 square meters of mirrored surface that would reflect sunlight onto a white target. The proposed installation site is not near any residential housing or commercial structures.

The U.S. Fish and Wildlife Service (USFWS) Endangered Species Program website identifies seven species in Adams and Arapahoe County as threatened or endangered: whooping crane, Mexican spotted owl, piping plover, least tern, Ute ladies'-tresses, black-footed ferret, prebles meadow jumping mouse. Because the project would be located on previously disturbed land at an existing solar testing facility and is small in scale, DOE has determined the project is not likely to affect the listed species. The proposed scope of work would not have any adverse impacts to cultural resources, floodplains or wetlands, as these resources are not known to occur at the proposed site.

Receiver testing would be completed by Aalborg CSP at their facility in Denmark, located at Hjulmagervej 55, 9000 Aalborg, Denmark. Aalborg CSP completed an R&D questionnaire addressing the protocols for laboratory safety, risk management, chemical handling and waste disposal. The project would follow all requirements regarding health, safety and the environment as set forth by the Danish Labor Bureau. Any gas handling, storage and combustion in the