

PMC-EF2a

(2.04.02)

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



RECIPIENT: SkyFuel, Inc.

STATE: CO

PROJECT TITLE : Development of a High-Concentration Low-Cost Parabolic Trough System for Baseload CSP Generation

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0003584	GFO-10-581	0

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 (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.
- B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

DOE is proposing to provide federal funding to SkyFuel to develop and demonstrate an advanced low-cost CSP solar collector, using higher-concentration, higher-temperature parabolic trough technology, with the ultimate goal of reducing the cost of baseload utility-scale solar power generation.

Phase 1 would include preliminary design of the solar collector subsystems, with cost and performance optimization based on structural, optical, and thermal analyses. Most of the work performed in Phase 1 would be developing models and design work. There would be some small-scale sample runs and pilot-scale runs for the research related to the ReflecTech Mirror Film. This work will be performed at one of SkyFuel's main offices located in Arvada, CO. The Arvada, CO office is SkyFuel's official research & development center.

Phase 2 would include engineering design and testing of critical subsystems and components including reflectors, support structures, sun-positioning drives, and manufacturing equipment. Prototype tests will be used for modification and refinement of the subsystems. Phase 2 would conclude with the test of a high-concentration parabolic trough segment – preliminary design formulated in Phase 1. Phase 2 work consists of detailed engineering design and some sample runs on a manufacturing line to develop a prototype. The manufacturing will be done at SkyFuel's Arvada, CO manufacturing facility.

Phase 3 would involve the deployment of the full scale SCA prototype collector row. There is not enough information available to complete the NEPA review for this phase at this time. Upon receipt of an additional EF-1 that provides detailed site information and additional detailed information on the full scale the collector row DOE will issue an additional NEPA determination.

Phase 1 and Phase 2 of this project include data analysis and modeling, and actions to promote the research, development and promote energy efficiency; therefore CX A9 and B5.1 apply to Phase 1 and Phase 2.

Phase 3 is subject to additional NEPA review.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Phase 3

This restriction does not preclude you from:

Phase 1 and 2

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Kristin Kerwin Date: 9/20/2010
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