

PMC-EF2a

(2.04.02)

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



RECIPIENT: Utah State University

STATE: UT

PROJECT TITLE : Alternative and Unconventional Energy Research and Development

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
CDP	DE-EE0003114	GFO-0003114-001	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:

- B3.6** Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).
- 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.
- B3.1** Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

Rational for determination:

DOE is proposing to provide federal funding to the University of Utah for research and development activities at the university and its subsidiary the Utah State Research Foundation. The proposed research and development projects will include algae energy systems, solar lighting, intuitive buildings, electric transportation, unconventional energy, wind energy, and land use impact studies.

The algae energy initiative task will take place within existing infrastructure and will include construction of instrumented raceways, bioreactor design, and test alternatives to raceways. CX B3.6 & B3.1 apply to this task.

The solar lighting task will entail the demonstration of an improved method of using optical fibers to collect and deliver visible sunlight indoors. This will include design, development, fabrication and assembly, testing, and documentation of the module. Testing of the new electronic tracking software will be performed on existing roof mounted assemblies. CX B3.6 & A9 apply to this task.

The intuitive buildings research project will develop new sensing technologies capable of providing real-time scene interpretation and task adaptive lighting. This project will include a series of lab experiments to include algorithms for software, sensor development and processor development. CX B3.6 & A9 apply to this task.

The electric transportation task will explore the technical viability of wireless and inductive power transfer for recharging electric vehicles. This will include selection of candidate energy transfer technologies, literature research, and testing and analysis through bench scale laboratory experiments and vehicle prototype. CX B3.6 applies to this task.

The unconventional energy project will explore the use of algae to remediate production and wastewater, carbon dioxide, and waste heat from unconventional fuel production. This will entail sampling algae from the Great Salt Lake and use this algae for growth media derived from production/process water in the Uintah Basin. CX B3.6 & B3.1 apply to this task, with the exception of subtasks 5.1.4 and 5.2.3 for which sites have not yet been selected and further information is required prior to completing the NEPA determination for those subtasks.

The wind energy profiling project will include design and development of a laser based experimental hardware and software systems to detect and measure aerosols in real-time. This will include indoor and outdoor testing and analysis of the laser based wind modeling tool. CX B3.6 & A9 apply to this task.

The land impacts task will research the laws and regulations involved, protected areas impacts, as well as identifying the impacts on aesthetics, quality of life, and economic development groups in areas where alternative energy from wind, solar, geothermal, and biofuels resources development may become a challenge. They aim to identify environmental triggers, for each renewable resource, in which problems may occur in project implementation. CX A9 applies to this task.

CX A9 applies to project management and administration.

The algae used in this project will come from samples that were taken 4 years ago. At the time this was not a state regulated activity. Starting in July of 2011, all algae sampling activities will need to be coordinated with the state Department of Natural Resources. The implementation of this project will not include the use of GMO's.

The applicant has submitted an R & D questionnaire for each task involved in this project. The R & D questionnaire thoroughly addresses all chemical and safety handling protocols required by the Utah State University.

This project is comprised of conventional research and development activities within existing laboratory space and information gathering activities; therefore a CX A9, B3.1, & B3.6 will apply, as noted above. Subtasks 5.1.4 and 5.2.3 will be subject to further NEPA review when sites have been selected by the recipient.

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:

Subtasks 5.1.4 and 5.2.3 will be subject to further NEPA review. The recipient shall submit and additional EF-1 when the sites have been selected.

This restriction does not preclude you from:

The remainder of the tasks are covered by this NEPA determination.

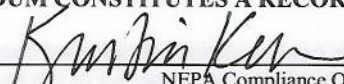
If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Eugene Brown 11/19/2010

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:


NEPA Compliance Officer

Date: 11/23/2010

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: _____